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HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES.

JULY—DECEMBER,

1848.

LIST OF BRITISH AND FOREIGN PERIODICALS REFERRED TO IN THE "HALF-YEARLY ABSTRACT."

BRITISH.

British and Foreign Medico-Chirurgical Review.
Medico-Chirurgical Transactions.
Edinburgh Medical and Surgical Journal.
London and Edinburgh Monthly Journal.
Dublin Quarterly Journal of the Medical Sciences.
Lancet.
Medical Gazette.
Provincial Medical Journal.
Medical Times.
Dublin Medical Press.
Bell's Pharmaceutical Journal.
Guy's Hospital Reports.
Chemical Gazette.
British Record of Obstetrical Medicine and Surgery.

AMERICAN.

American Journal of the Medical Sciences.
Philadelphia Medical Examiner.
New York Journal of Medicine.
Boston Medical and Surgical Journal.
Southern Medical and Surgical Journal.
British American Journal of the Medical Sciences.

FRENCH.

Annales de Chirurgie.
 " *d'Hygiène.*
 " *de Chimie et de Pharmacie.*
 " *des Maladies de la Peau.*
 " *Thérapeutique.*
Archives Générales de Médecine.
Bulletin des Académies.
Encyclographie Médicale.
 " *des Sciences Médicales.*
Journal des Connaissances Médico-Chirurg.
Gazette des Hôpitaux.
 " *Médicale.*
Journal de Chirurgie de M. Malgaigne.
Revue Médicale.
Journal de Chimie Médicale.
Journal de Chimie et de Pharmacie.

GERMAN.

Schmidt's Jahrbücher.
Zeitschrift für de Gesamnte Medicin.
Muller's Archiv. für Anatomie, &c.
Liebig's Annalen der Chemie und Pharmacie.
Canstatt's Jahresbericht.
Buchner's Repertorium.
Haller's Archives für Physiolog. und Patholog. Chemie.
Casper's Wochenschrift.
Poggendorf's Annalen.

N. B.—Every periodical here specified is consulted directly by the Editor and his coadjutors.

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THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

BEING

A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED
IN THE PRECEDING SIX MONTHS.

TOGETHER WITH

A SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND THE
COLLATERAL SCIENCES DURING THE SAME PERIOD.

EDITED BY

W. H. RANKING, M.D., CANTAB.,

LATE PHYSICIAN TO THE SUFFOLK GENERAL HOSPITAL.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.—CICERO.

~~Vol~~ NO. VIII.

JULY—DECEMBER, 1848.

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PHILADELPHIA:
LINDSAY AND BLAKISTON.
1849.

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THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES

NOTICE TO CORRESPONDENTS.

The Editor requests that all communications be forwarded (free) either to Mr. CHURCHILL, Princes street, Soho, London, or to himself, addressed Dr. RANKING, Norwich.

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W. H. RANKING, M.D.

1851-DECEMBER, 1851.

PHILADELPHIA:

T. K. AND P. G. COLLINS, PRINTERS.

PREFACE.

WHEN, four years since, we ventured to seek for the "Half-Yearly Abstract of the Medical Sciences" a share of the approbation of the profession, it was not without many misgivings as to our own capabilities for the undertaking, as well as to the existence of a field for a new medical journal.

The fact that the first Volume commanded a large circulation, which has been subsequently increased, and has been maintained, in spite of the many circumstances which have recently depressed literary exertions, has convinced us that, on the latter point, our fears were groundless; and, as regards the former, we are proud to be able to state, that in addition to the evidence afforded by a large circulation, the receipt of numerous and entirely spontaneous testimonies of approbation from the most distinguished members of our profession in this and other countries, has satisfied us that our humble efforts for the diffusion of valuable information in a form acceptable to all practitioners have been kindly appreciated. It would be ungracious here not to acknowledge the valuable assistance afforded by our talented collaborators, Drs. Guy, Day, Kirkes, and Mr. Ancell, to whose admirable Reports we consider that we are much indebted for the estimation in which this work is held.

To turn from these to less agreeable reflections, we feel called upon to notice certain ill-natured remarks and insinuations on the part of a few of our cotemporaries. We do not think it necessary to defend the method upon which this work is conducted; it is sufficient to say, that we received the commendations of some of these parties, until it was found that our circulation interfered with their own, when they suddenly found something to condemn. That so many journals are now adopting the practice of giving "Abstracts" and "Reports," we take to be at least a tacit approval of our plan.

We have also to remark upon certain rather angry letters from parties complaining that we have passed over their contributions to other journals

without notice, thereby implying favouritism. This charge we utterly disclaim : but we beg once for all to state, that it has all along been our object, as it will be in future, to exercise the most irresponsible independence in our selections. We do not, however, in omitting to notice any particular essay, wish in the least degree to imply a want of merit therein.

The usual Reports on Anatomy and Physiology, &c., are unavoidably postponed to the next volume.

In conclusion, we beg cordially to thank the profession for the support which has placed this journal in the honourable position which it now enjoys.

W. H. R.

NORWICH, *December*, 1843.

CONTENTS.

PART I.—PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—*Zymotic Diseases.*

ART.		PAGE
1	Treatment of Typhus Fever. By Dr. George B. Wood	17
2	On the Internal Use of Turpentine in Typhoid Fever. By the Same	20
3	Cholera, Treatment of, by Mr. C. E. Jenkins	21
"	" Anonymous	ib.
"	" Mr. Price Evans	22
"	" Mr. Hancorn	23
"	" Dr. R. Hall	24
"	" Mr. Brady	25
"	" Mr. Plimmer	26
"	reported Specific for	27

SECT. II.—*Diseases of the Nervous System.*

4	On Nervous Influence and Derangement. By Dr. Henry Kennedy	28
5	Coma from retained Biliary Secretion. By W. H. Ranking, M.D.	31
6	Head Symptoms from Overloaded Bowels	ib.
7	Acute Chorea terminating fatally in sixteen days. By F. J. Brown, M.D.	32
8	Chorea treated successfully by Chloroform. By Mr. Harris	36
9	A Severe Case of Facial Neuralgia successfully treated by Creasote. By Thomas Kelly	ib.
10	Remarkable Case of Hysteria. By R. West	ib.

SECT. III.—*Diseases of the Respiratory System.*

11	Clinical Lecture on the Varieties of Pneumonia. By J. F. Duncan, M.D.	43
12	Emphysema of the Cellular Tissue following Hooping-cough. By U. Herapath	47
13	Case of True Pneumonic Abscess. By Dr. James F. Duncan	48

SECT. IV.—*Diseases of the Chylopoietic System.*

14	On Ulcerative and Gangrenous Stomatitis. By Dr. West	51
15	Treatment of Ptyalism by a Concentrated Solution of Nitrate of Silver	56
16	Extraordinary Case of Biliary Concretions. By Edward Wilson Duffin, M.R.C.S.	ib.
17	On Gastrodynia and its Treatment. By Dr. Dick	ib.
18	On the Comparative Efficacy of certain Medicines in Dysentery, and other Intestinal Fluxes of Hot Climates. By Dr. Papillaud	58

SECT. V.—*Diseases of the Genito-Urinary System.*

ART.		PAGE
19	Pathology and Diagnosis of Bright's Disease. By Dr. James F. Duncan - - - - -	60
20	Ergot in Retention of Urine - - - - -	62
21	Liquor Potassæ in Strangury - - - - -	ib.

SECT. VI.—*Diseases of Uncertain or Variable Seat.*

22	On the Proximate Cause and Treatment of Gout. By Anthony White -	62
23	Treatment of Acute Rheumatism. By Dr. James Turnbull -	67
24	Treatment of Acute Rheumatism by Nitrate of Potash -	69
25	On the Remote Causes of Diabetes. By William Watts, M. D. -	ib.
26	Clinical Remarks on Dropsy. By Mr. Corfe -	71
27	Treatment of Anasarca and certain Dropsical Effusions, by Discharge of the Fluid by Cutaneous Incision. By M. Lombard -	74

SECT. VII.—*Diseases of the Skin, &c.*

28	On the Eruptive Diseases of the Scalp. By Dr. Neligan -	76
29	On the Treatment of Lupus by Cod-liver Oil. By M. Emery -	77
30	Diagnostic Characters of Secondary Syphilitic Eruptions. By M. Ricord -	78
31	Treatment of Acne Rosacea - - - - -	80
32	Arsenic in Furunculus and Acne - - - - -	ib.

PART II.—SURGERY.

SECT. I.—*Symptomatology and Diagnosis of Surgical Diseases.*

33	Diagnosis of Incomplete Fractures. By M. Debrou -	81
34	Diagnosis of Injuries to Tendons and Ligaments. By J. P. Vincent, Esq. -	ib.
35	Distinction between Syphilitic and Scrofulous Affections of Bone. By M. Ricord -	82
36	Diagnosis of Congenital Dislocation of the Shoulder. By W. R. Smith, Esq. -	ib.

SECT. II.—*Nature and Causes of Surgical Diseases.*

37	Dislocation of the Pelvis - - - - -	83
38	Fracture of the Ascending Branch of the Ischium and Descending Branch of the Pubis caused by Muscular Contraction. By M. Capelletti -	ib.
39	Cases of Strangulated Hernia, in which the Stricture was occasioned by a Band of Lymph effused from the Serous Coat of the Intestine, surrounding and constricting it as by a ligature. By Dr. Pirrie -	84
40	The Pathological Sequences of Myringitis. By James Mercer, M. D., F.R.C.S.E. -	85
41	Summary of M. Ricord's Opinions on Venereal Diseases. By Victor de Merie, M. D. -	91
42	Dynamics applied to Etiology in Surgery—Fractures of the Cranium—Hernia. By J. P. Vincent, Esq. -	92

SECT. III.—*Treatment of Surgical Diseases.*

ART.	PAGE
43 Gastrotomy in Cases of Obstructed Œsophagus. By Professor Sédillot - - -	94
44 Cauterization as a Remedy for Accidents resulting from Surgical Operations. By M. Bonnet - - -	95
45 A New Mode of Treating Deafness when attended by Partial or Entire loss of the Membrana Tympani, associated or not with Discharge from the Ear. By James Yearsley, Esq. - - -	98
46 On the Treatment of Gunshot Wounds. By M. Velpeau - - -	101
47 The Treatment of Erysipelas with Nitrate of Silver Ointment - - -	114
48 On the Prevention and Treatment of Bed-Sores. By Mr. Bernard - - -	ib.
49 Collodion, a newly-discovered Adhesive Fluid, a Substitute for Sutures and Adhesive Straps - - -	116
50 New Mode of Resection of the Bones. By Dr. Larghi - - -	118
51 On the Necessity of Excision in Cancer of the Lip. By Charles Fluder - - -	ib
52 Treatment of Venereal Diseases. By M. Ricord - - -	120
53 Enterotomy for the Relief of Obstructed Intestine from a Tumour at the Lower Extremity of the Sigmoid Flexure of the Colon. By B. M. A. Didot - - -	122
54 Removal of a Foreign Body from the Duct of Wharton. By Dr. H. F. Campbell - - -	123
55 The Treatment of Callous Ulcers. By James Syme - - -	ib.
56 Contraction of the Muscles of the Legs, Feet, and Toes, probably resulting from a Rheumatic Affection—Consecutive Deformity of these parts—Cure by Tenotomy and Orthopedic Apparatus. By M. Robert - - -	121
57 Mode of Reducing Dislocations of the Humerus at the Bristol Infirmary - - -	125
58 The Treatment of Aneurism by Compression—Corollaries. By Dr. Bellingham - - -	ib.
59 Successful Amputation at the Hip-joint—Employment of Ether. By M. Henot - - -	126
60 The Employment of Gutta Serena in Surgery—Its use in Club-foot, Simple and Compound Fractures, Necrosis, Amputations, Diseased Articulations, &c. By W. Lyon - - -	ib.
61 On the Treatment of the Irritable Stricture of the Urethra. By J. P. Vincent - - -	130
62 Excision of the Head of the Femur in Caries of the Hip-joint. By Henry Smith, M.R.C.S.E. - - -	131

SECT. IV.—*Rare Surgical Cases.*

63 Remarkable Case of General Anchylosis cured by the Application of Cold Water. By Dr. L. Fleury - - -	137
64 Remarkable Case of Fracture of Three Vertebrae of the Sternum, and of Three Ribs. By M. Brabant - - -	139
65 Case of Undescribed Congenital Malformation of the Shoulder-joint, simulating Congenital Dislocation. Communicated by Dr. O. B. Bellingham - - -	140
66 A Case of Ischio-rectal Abscess, caused by an Injury of the Nates, producing Symptoms resembling those of Dislocation into the Foramen Ovale, and those of Morbus Coxæ; with Remarks. By R. P. Howard, M. D. - - -	141

PART III.—MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—*Midwifery and Diseases of Women.*

ART.	PAGE
67 On Certain Displacements of the Unimpregnated Uterus. By Joseph Bell	145
68 On the Diagnosis and Treatment of Retroflexion of the Womb. By T. Safford Lee, M.R.C.S.	146
69 On Inflammation and Abscess of the Uterine Appendages in the Non-Puerperal State. By Henry Bennet, M. D.	150
70 Bitartrate of Potash in Uterine Hemorrhage	155
71 Case of Excision of the Anterior Lip of the Os Uteri, with Ulceration. By Dr. Clay	ib.
72 Acute Peritonitis simulated by Prolapsus Uteri. By Dr. Meigs	156
73 Prevention and Treatment of Abortion. By Dr. Tyler Smith	ib.
74 On Occlusion of the Os Uteri and Vagina. By Dr. Trask	160
75 On Rupture of the Uterus. By the Same	162
76 On the Mode of Application of the Long Forceps. By Professor Simpson	165
77 Remarks on the Forceps. By Dr. Alexander Tyler	167
78 Spontaneous Expulsion of an Uterine Tumour. By Dr. Eldredge	169
79 "Sachets" in Prolapsus and Relaxed Vagina	170
80 Medicated Pessaries	ib.

SECT. II.—*Diseases of Children.*

81 On the Pneumonia and Bronchitis of Infancy. By R. C. Golding, M. D.	170
82 Practical Remarks on Croup. By Dr. Zeroni	172
83 Diseases of the Larynx in Infancy; their Diagnosis and Treatment. By M. Blache	175
84 Treatment of the Diarrhœa of Infancy. By Dr. West	176
85 On the Vaginal Discharges of Children. By R. C. Golding, M. D.	178

APPENDIX.

86 Synopsis of the Methods of Treating Asiatic Cholera, recommended by recent Writers	179
---	-----

REPORTS.

Report on the Progress of Practical Medicine, Pathology, and Therapeutics. By the Editor	185
Report on the Progress of Surgery. By Henry Ancell, Esq., M.R.C.S.	217
Report on the Progress of Midwifery and Diseases of Women and Children. By the Editor	240

Books received	261
Bibliographical Record	263
Index to Vol. VIII	265

ABSTRACT OF THE MEDICAL SCIENCES,

&c. &c.

PART I.

PRACTICAL MEDICINE, PATHOLOGY AND THERAPEUTICS.

SECT. I.—ZYMOTIC DISEASES.

ART. 1.—*Treatment of Typhus Fever.* By Dr. GEORGE B. WOOD, Professor
in the University of Pennsylvania, &c.

(*From a Treatise on the Practice of Medicine*, 2 vols., 1847.)

In the earliest stage, before reaction has commenced, little treatment is usually necessary; and, indeed, there is seldom an opportunity for prescribing, as the patient is not seen until after the stage has passed. Sometimes, however, when it is more than ordinarily protracted or severe, it becomes necessary to employ remedies; and during the prevalence of epidemics of typhus cases now and then occur in which life may depend on the timely interference of the physician. An emetic has been recommended under these circumstances, in order to rouse the system out of its apparent torpor, and to direct action to the surface. It may sometimes be useful when the depression is not great. Ipecacuanha or sulphate of zinc should be preferred. But the general indication is to stimulate by such means as will not be likely to increase the fever too greatly, when it takes place, nor too strongly to add to the already existing tendency to the brain. The morbid cause is depressing the vital functions by its sedative power, and there is danger that they may be reduced below the point of reaction. External stimulants are the safest. The most powerful rubefacients, such as mustard, solution of ammonia, cayenne pepper, and oil of turpentine, should be applied to the extremities and along the spine; and these should be aided by external heat, by means of hot bricks, bottles of hot water, &c., placed along the body, hot stimulating pediluvia; or what would be probably the most effectual, the hot bath. If internal stimulation should become necessary, carbonate of ammonia, or oil of turpentine, would be preferable to the alcoholic remedies, as less likely to affect the brain; but when the prostration is excessive, recourse may be had to wine, brandy, or even ether. Cases, however, requiring this treatment, are exceedingly rare.

After the fever has become established, it may be necessary to unload the stomach by a mild emetic; but in general this may be dispensed with, and the treatment commenced with an efficient cathartic, so as thoroughly to evacuate the bowels. Calomel and rhubarb are generally best adapted to the circumstances of the case; though when the febrile action is high, with considerable strength of pulse, the saline purgatives may be preferred, with or without the addition of senna. Throughout the whole course of the disease, the bowels should be kept open by cathartics. These are indicated by the necessity which exists of avoiding accumulations of excreted matter in the bowels, and the depressing effect arising from its absorption when retained. The dark, offensive substances which

collect in the alimentary canal in typhus probably act as a direct sedative to the system. Cathartics, therefore, so far from increasing the debility, tend, if properly selected and employed, to obviate it. I am sure that I have seen the system, in low states of typhus, rise under the operation of medicines of this kind. No such contra-indication exists here as in the enteric or typhoid fever. The only caution necessary is to graduate the activity of the medicine, its dose, and frequency of repetition, to the state of the system. In the early period of excitement, the object may be effected by small doses of some saline purgative; but later in the disease, rhubarb should be preferred, either alone, or combined with aloes. One of the tinctures of rhubarb may be employed, with great propriety, in the latest stage, when stimulation becomes necessary. Sometimes it may be necessary to aid the cathartic by enemata, which may in general advantageously contain the oil of turpentine.

The question as to the propriety of bleeding, in the early stage of the fever, has been much discussed. By some the remedy has been urged as of the greatest importance; by others it has been condemned as almost always injurious, and scarcely ever necessary. Probably the advocacy of it may partly have been owing to the confounding this disease with enteric fever, which is well known generally to bear bleeding well at the commencement. It is very certain that, in genuine typhus, it is often capable of doing much harm; and death has frequently been the result of its injudicious use. During the prevalence of the great typhus epidemics of this country (America), it frequently happened that, upon the first arrival of the disease in a neighbourhood, not being understood by the physicians, and frequently presenting the complication of some local inflammation, it was treated by them as they had been in the habit of treating other febrile and inflammatory diseases, with the free use of the lancet. The consequences were, in many instances, very fatal. Such an instance occurred in the neighbourhood of Philadelphia. The disease approached the city through the state of New Jersey, and prevailed for some time in the opposite village of Camden, before it crossed the Delaware. In that place it was unknown, and was treated as an inflammatory affection, with almost uniformly fatal results. My friend and preceptor, the late Dr. J. Parrish, of Philadelphia, then a young practitioner, was called into the village at this juncture, and having been prepared by the perusal of Dr. North's treatise on the disease, as it had prevailed in New England, immediately adopted a different course of treatment, avoiding bleeding altogether, and using stimulants, with the effect of curing almost all cases. He thus laid the foundation of that reputation as a skilful physician, which has never been exceeded in our city. I have heard of other reputations which began in the same way. So fatal was copious bleeding in that epidemic, that popular, and to a great extent professional opinion received a set against it; and it was some time after the disappearance of all tendency to the disease before the fear of the remedy so far subsided as to permit its judicious use under circumstances requiring it.

But, though thus injurious if abused, there are undoubtedly cases of typhus fever in which bleeding may be moderately employed with safety and advantage. It is highly probable that different epidemics may differ greatly in this respect, the loss of blood being much better borne in one than in another. The remedy is often very speedy and effectual in the relief of the headaches, and other symptoms of cerebral disturbance, during the first few days. Its effects are said to be even more striking in this than in other febrile diseases. It may be resorted to when there is evidence of much and dangerous local determination of blood, with considerable strength of pulse; but even then the quantity taken should be small. Little is required to diminish the force of the pulse, and there is danger of syncope, as well as of subsequent prostration, from the loss of large quantities. Six or eight ounces are often sufficient, and more than twelve should seldom be extracted at one operation. In the great majority of cases it is altogether unnecessary. In those which are at all doubtful, it is best to employ local bleeding. This is safer, and relatively more effectual. When the head is affected, the blood should be taken from the temples or back of the neck, by cups or leeches. In pectoral inflammation, they may be applied between the shoulders. A very slight depletion may sometimes be usefully effected by means of dry cups, which withdraw a certain amount of blood from the circulation to the surface where they are applied.

The febrile heat of the early stage is most effectually relieved by the external use of cold water. This may be dashed upon the patient, as recommended by Dr. Currie, or applied by sponging. The latter mode is preferable when there is much debility. The remedy should never be used when there is any feeling of chilliness on the part of the patient, or any perspiration. Affusion would probably also be hazardous in cases complicated with pneumonia. In doubtful cases, sponging with cold water should be preferred. Sometimes spirit, or spirit diluted with water, may be advantageously substituted. The effect of these remedies is to relieve the distressing heat, relax the skin, produce occasionally a gentle sweat, and greatly comfort the patient. The affusion is said sometimes to have apparently arrested the disease.

The mild refrigerating diaphoretics may also be used, such as the neutral mixture, effervescing draught, solution of acetate of ammonia, and sweet spirit of nitre. Dover's powder is often very useful by producing diaphoresis, quieting restlessness, and promoting sleep. It should, of course, not be employed in comatose cases. When the fever is complicated with pectoral inflammation, no remedy is probably so effectual as a combination of opium, ipecacuanha, and calomel, given so as to keep the system moderately under an anodyne influence, and continued until it slightly affects the gums. Sometimes gently-stimulant infusions may be administered at the same time. In this country (America) the infusion of serpentaria has been frequently used. On the continent of Europe, they often employ the flowers of arnica, and sometimes contrayerva and angelica.

Stimulants are essential in the treatment of typhus. Sometimes it is necessary to administer them from the outset of the disease; but more frequently they are required only at an advanced period, when the feebleness of the pulse, the dryness of the tongue, the sordes about the teeth, and often some coolness of the extremities, indicate the commencement of prostration. Upon the whole, the most efficient stimulants are Peruvian bark, wine, and opium. The bark was formerly given in decoction, often made with wine, with the addition of serpentaria or aromatics. At present sulphate of quinine is generally preferred, as more convenient of administration, and more acceptable to the stomach. The dose may be a grain every two hours. Wine is usually given at first in the form of whey, made with two parts of milk and one of Madeira, sherry, or Teneriffe. Afterwards, when stronger stimulation is required, it may be administered pure. The quantity must of course be regulated by the degree of debility, and the effects produced. It may not exceed a wineglassful in a day, or it may amount to a quart. Porter or ale may be substituted when more convenient, or preferred by the patient. Opium is administered in substance or tincture, in such quantities, and at such intervals, as to maintain a regular excitement without stupefaction. From half a grain to a grain may be given every four, six, or eight hours; and the quantity may be increased if necessary. Carbonate of ammonia is also a good stimulant, which may often be used advantageously, dissolved in water, with the addition of gum arabic and loaf sugar, to obtund its acrimony. From two and a half grains to ten grains may be given at a dose every hour or two. It is customary to begin with small quantities of wine-whey and carbonate of ammonia, alternately, every second hour, increasing the dose, and adding the other stimulants as the case is found to require them. Sometimes it is necessary to have recourse to brandy, or other form of proof spirit. The oil of turpentine may also be used; and some have recommended phosphorus, but I have never used it.

Should the stimulants be found to increase the frequency of the pulse, heat of skin, delirium, and stupor, they should be suspended, or the quantity reduced. If they strengthen without accelerating the pulse, relax the skin, and moderate delirium and stupor, they may be considered as doing good.

In the sudden-sinking spells which sometimes occur, and threaten the most serious consequences, active stimulants must be quickly used. Under these circumstances, sulphuric ether may be given in the dose of a fluid drachm. Long-continued sleep occasionally exhausts patients in typhus fever exceedingly. It is best, therefore, unless sleep may, from special causes, be deemed very desirable, to wake the patient occasionally, in order to administer his medicines. This, too, is necessary, in order to sustain a uniform effect by means of the medicines.

For the nervous symptoms, such as restlessness, jactitation, vague uneasiness,

substultus, &c., camphor is often an admirable remedy, in doses of from five to ten grains, given in emulsion. Musk is the most effectual remedy in singultus.

External stimulation is of great importance in those cases in which the surface is cool. This is effected by means of sinapisms to the extremities; blisters to the thighs and trunk, allowed to remain so long as is necessary to redden without vesicating; and by frictions with cayenne pepper and hot brandy, oil of turpentine, liniment of turpentine, &c. In the lowest and most insensible conditions, the electro-magnetic machine may be used; or the patient may be wrapped from head to foot in a blanket saturated with heated spirit; or, finally, the effect of a burning coal applied to the epigastrium may be tried.

For violent headache, coma, and delirium, after the local abstraction of a little blood, if this be deemed necessary, it will be proper to thin or shave off the hair, to apply ice or cold water, and in the latter stages to blister the back of the neck, or what is more preferable, the whole scalp. Sometimes great relief is afforded by warm fomentations about the head when the cold applications fail.

For the measures requisite in cases complicated with inflammation of the lungs, the reader is referred to typhous pneumonia. Irritation of stomach and bowels is to be combated by the ordinary measures, among which opiates internally, and revulsive applications, or cataplasms externally, are not the least efficient.

The remarks made in reference to diet, under enteric fever, are applicable also here. It is even more necessary in typhus to throw a due amount of nutrition into the system; and though for the first few days it may be proper to confine the patient to farinaceous liquids, yet, as the disease advances, animal broths become necessary; and in very feeble states we must have recourse to the animal essences, milk-punch, &c.

ART. 2.—*On the Internal Use of Turpentine in Typhoid Fever.*

By Dr. GEORGE B. WOOD, Professor in the University of Pennsylvania.

(*From a Treatise on the Practice of Medicine*, 2 vols., 1847.)

The author remarks that there is a particular and dangerous condition in typhoid fever, in which he has rarely known turpentine to fail. In his description of the symptoms of the disease he states that in the latter periods the tongue, instead of cleaning from the edges and tip gradually, as in ordinary convalescence, often parts with its fur quickly, and in large flakes generally, first from the middle and back parts of the surface, which is left smooth and glossy, as if deprived of its papillæ. He also mentions that if, after this process, the tongue remain moist, a slow convalescence may be confidently calculated upon. "But it not unfrequently happens," he proceeds to observe, "that during the progress of the cleaning process, or after its completion, the surface of the tongue becomes quite dry, and the process, if not finished, is suspended. At the same time, there is generally an increase of the tympanites, and an aggravation of the other symptoms. Two cases of this kind I have seen terminate fatally. Ascribing the aggravation of the case, under these circumstances, to the occurrence of ulceration in the ileum, I inferred that the oil of turpentine, which had been recommended in ulcerations of the intestines, might prove useful here, and determined to employ it in similar cases. I did so, and have never yet found it to fail under the circumstances mentioned, although I have frequently had occasion to resort to it, both in public and private practice. It acts in some measure as a stimulant, but chiefly, I believe, as an alterative to the ulcerated surfaces in the intestinal mucous membrane. It should be given in doses of from five to twenty drops, every hour or two, in an emulsion of gum arabic, sugar and water; a little laudanum may be added. In the course of twenty-four, or at most forty-eight hours, some amelioration is observed. The tongue becomes gradually moister, and covered with a white fur, the tympanitic distension ceases to augment, and after a time diminishes; the pulse becomes less frequent, and the patient enters slowly into convalescence, without any other remedy. Not unfrequently the practitioner is not called in till the disease has assumed the aspect alluded to. He finds the tongue red, smooth, and dry, the abdomen tympanitic. I have known such cases to run on for a considerable time, without change, under various treatment, and then yield immediately to this remedy. I repeat, the oil of turpentine may be used with good hope of benefit

in any case of enteric fever, in the advanced stage, with dry tongue and weak pulse; but in the cases alluded to, with a confidence of success, so far as the experience of twenty years may be admitted as evidence.

ART. 3.—*Treatment of Cholera.* Remarks by various Writers.

1st. *On the Treatment of Cholera by Strychnine.* By C. E. JENKINS, Esq.—The formula employed is, pure strychnia, gr. 1, conserve of roses sufficient to form eighteen pills, one to be given every quarter of an hour, and washed down with copious draughts of cold water, which the patient will greedily and gratefully imbibe. The first three or four pills will be probably ejected, but the subsequent doses will be retained, and their good effect, in conjunction with the water, speedily perceived.

The author, with regard to the *modus operandi* of these remedies, apprehends that strychnine, being the most powerful tonic known, acts in that capacity on the prostrate nervous system; and that the cold water in the first place replaces the loss of the fluids, and in the next, by its coldness, constricts the papillæ of the mucous membrane, thus suppressing their outpourings; lastly, that, by its volume, it distends and gives tone to the otherwise empty and flaccid intestinal tube.

The author supports the opinion that cholera and influenza are mere varieties of one and the same disease, attacking different organs; in the one, the mucous membrane of the respiratory, in the other, of the digestive organs. In both forms the same copious watery discharge is emitted, accompanied by the same remarkable prostration of strength: both are subdued by the same means.

Lancet, Sept. 2d.

2. *On the Prevention of Cholera, and its Treatment by Common Salt.*—[A correspondent of the '*Lancet*' offers the following observations:]

The following statement, bearing upon the prevention of susceptibility to cholera, should it appear in Great Britain, is considered worthy of public attention by a medical man of moderate practice and experience, who saw much of the malignant form of the disease in the early part of 1832 and middle of 1834:—

The causes which especially predispose to attacks of cholera, are a somewhat weakened state of the stomach and alimentary canal. This condition is so decidedly obviated by eating freely of common salt with our meals, that it is believed three-fourths, at least, of the cases which would otherwise occur, may be prevented by having recourse to this simple addition to our food.

The quantity taken should be exactly what the stomach will bear without after-inconvenience; for an adult, from a quarter to a third of an ounce during the day is amply sufficient—children to have proportionably less; but this quantity must be subdivided, so that it may be taken at *three* periods; for example, a ninth of an ounce at breakfast, dinner, and tea or supper. It may be eaten with fish, animal food, poultry, game, bread, toast, or bread and butter.

The writer begs to state, that salted meats and other preparations into which salt enters or is dissolved, as broths, soups, &c., are totally different in their action upon the stomach to salt in its pure state. The chemical change produced on salt by heat, and its long admixture with other matter, not only destroys its preventive character, but renders solids or fluids thus impregnated, in many instances, prejudicial.

When cholera was prevalent in London, the writer was constantly exposed to its influence, and only used the above simple preventive measure. He could chemically and physiologically explain its mode of preventive action, but such detail is more calculated for medical journals and scientific bodies. Suffice it to add, that it may be taken without the slightest risk to the general health, under all circumstances.

Sanitary measures, as warm clothing, wearing flannel next the skin, ventilation, cleanliness, and good food, generous living rather than the reverse, are much recommended.

The writer will further observe, that the public are in error, who suppose fresh

fish, perfectly in season, ripe fruits, or fresh vegetables unwholesome. Indeed, taken moderately, they lessen the tendency to the disease in question.

In two days after eating the quantity of salt, as recommended, persons, it is believed, will not be susceptible to the influence of cholera. Its daily use, however, and in the same quantity and manner, must be persisted in, so long as cholera remains in this country, should it unhappily visit us.

The writer confidently believes this simple plan would operate as efficiently upon our regiments in India or elsewhere, where cholera prevails, as he feels assured it will be found to do in England, should its administration be unfortunately called for.

[The author of the above prophylactic suggestion (Mr. Beaman, of King street, Covent garden), during the advent of Asiatic cholera, in 1834, forwarded us a communication on its treatment, which was published in the Number for August 23d of that year (p. 754), and from which we extract the following statement:—]

To an adult I give three tablespoonfuls of common table salt in half a pint of tepid or cold water; this produces vomiting in less than one minute, and the vomiting ought to be powerfully violent; such effect is followed by an immediate diminution of the cramps, and very marked increase in the fulness of the pulse; the other symptoms are much amended, the voice becoming stronger, and the muscular power greater. It may happen that the first dose answers every purpose; frequently, however, the beneficial effect of the first dose is not permanent, for within twenty minutes, or half an hour, the pulse begins to flag, and then rapidly decreases in power; another attack of cramp ensues, and the prostration increases; a second dose of the salt is now to be administered, and even a third may be required. I have never had occasion to give it oftener than three times.

The good effect of the salt emetic really depends upon its producing powerful and very efficient vomiting; without this full operation it ought to be thrice repeated, with an interval not exceeding five minutes between the doses.

The adjuvant treatment consists in placing the patient between warm blankets, but he must not be too heavily covered—rubbing the parts spasmodically affected with stimulating liniment, and occasionally applying a mustard cataplasm to the pit of the stomach.

As medicine, I dissolve half a drachm of carbonate of soda in two or three ounces of water, and with the addition of four or five drachms of fresh lemon juice, give it while effervescing, every hour, for three or four doses; afterwards once in four hours. For forty-eight hours I give no other medicine.

I have tried, in two instances, scruple doses of the muriate of soda with the same quantity of the carbonate; but the combination was nauseous to the patients, and no advantage was gained.

Generally, on the day after the attack, the patient passes a small fecal evacuation, containing bile; otherwise I give, at the expiration of forty-eight hours, a drachm of castor-oil, or a few grains of rhubarb.

The active part of the above treatment requires the constant superintendence and watching of the medical practitioner from two to four hours, during which time I give the patient as much water, or toast and water, cold or tepid, as may be wished for, and no other beverage. For the next twenty-four hours I allow only weak black tea and thin arrow-root; and on the ensuing day a little broth or light pudding, my patient now being generally convalescent; indeed, it is remarkable how rapidly recovery ensues, considering the late direful state of the individual.

The plan may require some modification when treating young or aged persons.

Lancet, Sept. 2d.

3. *On the Treatment of Cholera by Carbon and Carbonic Acid.* By W. PRICE EVANS, Esq., Surgeon, Swansea.—Mr. Evans, addressing the Editor of 'The Lancet,' remarks: When I penned the letter you did me the honour to insert in 'The Lancet,' ante p. 247, I had not read the communication of Dr. Parkin recommending carbon, or rather carbonic acid, in the treatment of cholera. Either Dr. Parkin, or your humble servant has a very confused notion as to the respective properties of charcoal and carbonic acid. Quoth Dr. Parkin, "Knowing that carbonic acid combines with, and renders innocuous putrefactive and other substances injurious to

animal life, it is neither unreasonable nor unscientific to conclude," &c. It is evident, from what follows, that it is carbonic acid the Doctor means, and that it is no misprint for charcoal. Now, as carbonic acid does *not* possess the properties ascribed to it by Dr. Parkin, I will, *meo periculo*, venture to assert, that it is both unreasonable and unscientific "to conclude that this gas neutralises the effects of those noxious and excitementitious matters, which always exist, to a greater or less extent, in such situations."

Fresh charcoal, on the other hand, possesses in the highest degree the power of absorbing the gases—a fact which, in connexion with others concurrent, induced me, in your last journal, to record my conviction that it had 'the property of absorbing the choleric virus.' According to Mr. J. C. Atkinson (*The Lancet*, p. 220), naphthaline also is endowed with the property of absorbing gases. The extract below, from Dr. Ure's Dictionary, will justify me in considering and recommending fresh charcoal as an important preventive and remedial agent, more especially now that the death-tread of the fell cholera is daily heard approaching near and still nearer to our shores.

The following is a tabular view of the volumes of the different gases which were absorbed in the course of twenty-four hours by one volume of charcoal, in the experiments of M. Théodore de Saussure, which were conducted in a way likely to produce correct results:

Ammoniacal gas	90	Bicarburetted hydrogen	35.00
Muriatic acid gas	85	Carbonic oxide	9.42
Sulphurous acid	65	Oxygen gas	9.25
Sulphuretted hydrogen	55	Nitrogen	7.50
Nitrous oxide	40	Carburetted hydrogen	5.00
Carbonic acid gas	35	Hydrogen gas	1.75

The introduction of coke as an article of fuel for household purposes, would ensure a regulated supply of it in the fresh state on the premises, so that all who used it, would, in and about their houses, have a surface of coke of more or less extent presented to the atmosphere.

This view of the subject being admitted, it is obvious that the administration of fresh charcoal would be likely to prove useful in other cases, such as in those of cattle, after partaking largely of green food, where enormous distension ensues, consequent on the extrication of the gases.

Lancet, Sept. 9th.

4. *Treatment of Cholera by Stimulants, Mercury, and Sesquichloride of Iron.* By J. R. HANCOCK, Surgeon, Shoreditch, M.R.C.S., &c.—It appears to me requisite to call upon the Royal College of Physicians, or the Central Board of Health, to come forward and propose some distinct line of treatment for the guidance of the profession generally, the majority of whom are in a state of great uncertainty as to the best mode of meeting the enemy.

In the absence of an authorized mode of treatment, it behooves every practitioner who has had an opportunity of witnessing this direful disease, to come forward and show his experience for the guidance of others. This is my present object, and I propose to offer a systematic course of medicinal remedies which, in 1831-2, I found most successful in a large majority of my cases, a treatment sanctioned by Dr. Warden, then Surgeon of Sheerness dockyard, Dr. Gooch, of the *Ocean* flag-ship of the same port, and other surgeons, and published in the '*Lancet*' of that period.

Cholera is sometimes ushered in by simple diarrhœa, and at other times commences at once in the most aggravated form, and terminates in death in the short period—as I have witnessed—of four hours. If the attack begin with a feeling of nausea, a very gentle emetic may preface the other remedies—as two scruples of powdered ipecacuanha. But if merely uneasiness and relaxation of the bowels occur, then a pill of two grains of extract of opium, and four grains of calomel may be given, followed in two hours by three-quarters of an ounce of castor oil. About two hours after this, give two table-spoonfuls of the following mixture every two, three, or four hours, according to the urgency of the symptoms: Sesquicarbonate of ammonia, a scruple; sesquicarbonate of soda, a drachm; aromatic confection,

a drachm; tincture of capsicum, thirty minims; sedative solution of opium, thirty minims; camphor mixture, to six ounces: mix. To take mercury with chalk, three grains: powdered capsicum, three grains; mix for a powder to be taken every four hours, as well during the collapse stage as that of the simple diarrhœa, always taking care the mercurial preparation be not carried too far. It is of the utmost importance to keep up the secretion of the liver, the proper action of which will be found to be the great security against the after consequences; viz., typhus fever.

Should the real Asiatic cholera supervene, I would strongly urge upon my professional brethren to try the styptic remedy which I found so remarkably successful in 1832; viz: tincture of sesquichloride of iron. This was my sheet anchor, and I gave it in as concentrated a form as possible immediately after every ejection.

Whatsoever may be the nature, cause, or original seat of disease in Asiatic cholera, the effect produced appears to be an atony of the secretory and excretory ducts and mucous follicles: it therefore follows, as a natural indication, to restore power and tone to these vessels as speedily as possible, and this is best effected by the administration of styptics. When I used the tincture of sesquichloride of iron, in 1831-2, its immediate effect in reducing the quantity of fluid ejected was truly astonishing, and it gradually diminished after every dose, until it ceased altogether, and the cure was effected. It should be remembered, that after this medicine, the evacuations, instead of being like rice-water, are black (the effect of the iron); this should be explained, otherwise the bystanders become much alarmed.

As a local application for the relief of cramp, I have found the following liniment far preferable to mustard poultices, not only from its stimulating properties, but because the requisite friction in using it is in itself efficacious: Strong sulphuric acid, a drachm and a half; olive oil, an ounce and a half; mix for an embrocation. The only objection to its use is its destructive action on the linen, which is of very little importance considering the direful nature of the malady. The hot-air bath should, also, be had recourse to; this is effected by means of a small spirit lamp and apparatus on the principle of Sir H. Davy's safety-lamp, which is merely placed under the bedclothes, so that any degree of heat may be quickly induced. I cannot too strongly urge the avoidance of *brandy or large doses of opium*; they both *enervate the system*, prostrate the vital energies, and do more harm than good. Though the extreme coldness of the surface of the body and of the tongue—nay, the coldness of the breath itself—would seem to indicate the former, it is not so, for the patient complains of the most agonizing thirst, and intense heat in the hypogastric region, which is best allayed by the free use of iced soda water and iced champagne, and small pieces of ice retained in the mouth and occasionally swallowed.

Lancet, Sept. 9th.

5. *Treatment of Cholera by Tartar Emetic.* By Dr. RADCLIFFE HALL.—The ordinary mode of proceeding was as follows: Five grains of tartarized antimony were dissolved in half a pint of camphor mixture; of this an ounce was given every two hours. The patient was urged to drink freely of toast-water. Immediately, or in a short time after the first dose, vomiting occurred, and was encouraged by the toast-water. After a time, the patient usually objected to the copious drinking of the water, and required much urging to persevere. Perseverance, however, was strongly enjoined. It was noticed in nearly all the fatal cases, that the objection to continued drinking had not been overcome. This plan was unceasingly persevered with, presenting a scene of incessant drinking and throwing up, until the stomach became tolerant of both the antimony and the fluid. The mixture was then continued, with less drinking of toast-water, so long as the symptoms required it. Simultaneously with, or shortly after the cessation of, vomiting, the symptoms usually improved. The good signs were these: warmth of tongue, gentle warm perspiration, and secretion of urine; increased volume of pulse, subsidence of cramps and of diarrhœa, and less of the extreme dejection of mind: sometimes a little bile in the matter vomited, or a bilious stool. The antimony was now discontinued, the patient allowed to remain quiet, warmth applied to

the feet, and a little arrow-root gruel given, flavoured or not with brandy, according to circumstances. The patient generally fell into a quiet sleep, and awoke feeble, but feeling comparatively well, and in good spirits. The action of the bowels was next attended to by giving castor oil, and very little other than hygienic treatment was needed subsequently. When the cramps attacked the abdomen, sinapisms were applied until the effect of the antimony had had time to remove them.

The advantages of this treatment were found to be—1, its superior efficacy as a means of cure; 2, its speedier operation in curing; 3, the absence of the fever of reaction, with its accompanying risk of pneumonia and other serious lesions, a result not ordinarily attending any of the other methods of treatment.

The *rationale* of this treatment—homœopathic in theory, heroic in practice—is easily deduced from the known pathology of cholera. All we know of the facts of cholera is summed up in few words. After exposure to the influence, the subject sickens, there is extreme prostration of mind and body, shock of all parts of the system, a check to all natural secretion, inability on the part of the vascular organs to circulate the blood properly, want of blood on the surface, superabundance of blood in the viscera, a gorged state of the internal veins, effusion of the serous part of the blood through the gastro-intestinal mucous membrane, and, consequently, serous vomiting and purging, deficient animal heat and cramps. What, then, are the indications?

1st. To restore the circulation by dislodging the gorged internal vessels of their contents by sending blood to the surface, and so to gain time.

2d. To follow Nature's indication of ejecting the *materies morbi*, without allowing death to ensue in the meantime; or otherwise to follow, *to a safe extent*, Nature's own plan of action, until the morbid agency ceases to exercise its deleterious influence.

3d. To restore fluid to the drained and inspissated blood.

4th. To restore secretion.

Theoretically, we might have doubted the safety of exhibiting a prostrating remedy like tartar emetic in a disease attended with prostration like cholera. On such a principle we should not bleed in peritonitis. But the prostration of cholera is kept up by the almost stagnant circulation in the capillaries, and the engorgement of the veins, conditions which antimony, when absorbed, has a tendency to obviate, and which, as an emetic, both mechanically and through the ganglionic nerves, it tends to overcome. The distinction between spontaneous vomiting and vomiting artificially induced must be borne in mind. The former exhausts far more rapidly than the latter.

Lancet, Sept. 16th.

6. *Treatment by the Internal Use of Chloroform.* Case by Mr. BRADY, of Harrow. —Mrs. Kidney, æt. 55. of very delicate constitution, was attacked on Thursday, the 24th ult., with diarrhœa, for which she took a dose of "rhubarb and brandy." The diarrhœa not having abated on the following morning she sent to me for a remedy; and, conceiving that it might have depended on irritation induced by indigestible food, I ordered her the following draught:

R Olei ricini, ʒij,
Tæ. opii, ℥xx,
Ol. terebinth., ℥xx,
Aq. m. pip., ʒj.
M. ft. haustus.

This draught procured her a temporary relief: but during the night the diarrhœa increased, accompanied with severe tenesmus and spasm of the stomach, with vomiting of a greenish acrid fluid.

On Saturday morning, at seven o'clock, I was called in haste to see her. I found her labouring under the symptoms above named, with an extremely anxious countenance, and a quick and a feeble pulse: the dejections watery, with a white curdy precipitate; tongue covered with a dark fur: the temperature of the body natural; urine suppressed. Ordered sinapisms over the abdominal and gastric regions, and the following medicines:

R Fellis. bov. inspiss., gr. iv,
Hydrarg. chlor., gr. ij,
Capsici, gr. j.

Fiat pilula omni horâ capienda.

R Mist. cretæ, ℥iij,
Ammon. carb., ℥ij,
Tæ. opii, ℥iss,
Catechu, ℥vj.

M. Capt. ℥j, omni horâ.

Ten o'clock A. M. Vomiting and diarrhœa still continue, accompanied with excruciating spasm of the stomach and severe cramp in the legs. The difference in the aspect of the patient is remarkable: the features collapsed; the eyes deeply sunk, and the expression that of total apathy; pulse almost imperceptible; extremities cold, and finger nails blue. Ordered mustard poultices to the calves of the legs and soles of the feet, and gave ten minims of chloroform in weak brandy and water; the nausea ceased at once. After a few minutes I inquired how she felt; she said that "she felt the medicine warming her all over."

Eleven o'clock A. M. No vomiting or purging; aspect much improved; pulse remarkably raised, as well as the temperature of the whole body. Ordered rice, milk, and a little wine negus.

Twelve o'clock. Still improving; spasm in the calves of the legs occasionally recurring. I now gave a second dose (of five minims) of chloroform, and by two o'clock P. M. every symptom of the disease had vanished, with the exception of extreme debility, from which she gradually recovered. During the attack thirst was excessive, but everything drunk was immediately rejected, until the first dose of chloroform had been taken, when the vomiting ceased entirely. I have given it in five cases of simple cholera, occurring in athletic labourers, in doses of fifteen and twenty minims; and, although it invariably raised the pulse and spread a sensation of warmth all over the body, the diarrhœa appeared to have been but little affected by it; the vomiting, however, is generally subdued in a most remarkable manner; and I am inclined to think that, in small doses, it will be found to be the most effectual remedy we possess in subduing the irritability of the stomach which accompanies many idiopathic affections.

In no case in which I have yet given it, even in doses of twenty minims, did it appear to exert the least narcotic influence on the brain. If it affected the cerebral function at all, its influence seemed to be that of a mild stimulant, the exalted action producing, however, no subsequent depression. This quality must render it peculiarly adapted to the treatment of malignant cholera, in which opium, ammonia, ether, and the large quantities of alcoholic fluids, that are usually administered in severe cases, even granting that they relieve the urgency of the symptoms in the earlier stage of the disease, must inevitably add to the depression and collapse, which are its most marked and unmanageable features towards the close.

In the severe cases in which I have successfully given it, after the irritability of the stomach and bowels and the severity of the cramp have been subdued, a pleasing slumber is enjoyed; but this is evidently not the stupor of a narcotic, but the quiet resulting from a sudden alleviation of pain and anxiety.

The exemption of the brain from its influence as a sedative is remarkable, considering how speedily a comatose state may be induced by its inhalation; but the dose of a volatile fluid which will produce a narcotic effect when inhaled will be no criterion of the quantity which may be introduced into the stomach with safety; and the converse is also true. A large quantity of carbonic-acid gas may be introduced into the stomach with impunity: we know how fatal is its inhalation in comparatively small proportion; and the dose of ether sulphuricus which has been inhaled during some severe operations would, if taken by the stomach, have very probably induced fatal narcotism.

Case by Mr. Plimmer.—The following case of Asiatic cholera resembles in every symptom the one communicated by Mr. Brady.

The patient, æt. 35, of slight stature, always enjoying good health, had slight diarrhœa on the evening of the 14th inst. At four o'clock A. M. on the 15th, vomiting came on very violently, with spasm affecting all the extremities; this con-

tinued, with diarrhœa, to increase till eleven, when I saw him, his symptoms being precisely the same as Mary Parrott, but, if possible, more aggravated. I determined on giving chloroform, after giving hydr. chlorid. with opium, which was immediately rejected. I gave the following mixture: Chloroform, $\mathfrak{m}\mathfrak{v}\mathfrak{j}$; brandy, $\mathfrak{z}\mathfrak{i}\mathfrak{j}$; water, $\mathfrak{z}\mathfrak{i}\mathfrak{ss}$. I gave a third part, which was thrown up in half an hour; I gave him a second dose, which was retained: the vomiting and diarrhœa ceased; the spasm less severe. I gave him, in two hours, the remaining part, and during the next six hours I administered, in two doses, six minims more of the chloroform with the most decided benefit: and he is now, the 17th inst., convalescent. To the extreme tenderness over the region of the epigastrium I applied flannel soaked in rectified spirits of turpentine. I observed there was no urine secreted, and I am firmly of opinion that the usual remedies would not have met this case. I candidly confess I had no hope of success from its severity, and but for Mr. Brady's case, I believe I should have lost my patient.

Medical Gazette, Sept. 16th.

[It should be remarked that these cannot be considered as instances of genuine malignant cholera, as up to the present time (Sept. 9th) there is no evidence that the epidemic has reached this country.]

7. *Reported Specific for Cholera.*—An alleged remedy against the cholera has been communicated to the Board of Health by an officer of rank, long resident in India.

Ingredients.—Assafœtida, opium, black pepper pulverized. These ingredients, more or less pure, will be found in every town and village.

The dose for an adult is from a grain and a half to two grains of each, made into a pill.

The medicine should be made up into pills of one dose each, and kept for use in a phial well closed, as it is of great importance to check the disease the instant of its attack.

The best mode of administering the pill is not by swallowing it whole, lest it be rejected in that state, but by chewing it and swallowing it with the moisture of the mouth, and a very little brandy and water to wash it down. The next best way of administering the medicine is by bruising the pill in a spoonful of brandy and water, and then swallowing it.

Much liquid must not be given: but to relieve the thirst, which is great, brandy and water by spoonfuls occasionally is the best mode.

The dose should be repeated every half or three quarters of an hour, according to the urgency of the symptoms, until they have been subdued. From three to five doses have generally been sufficient for this, although as many as eight have been given before health has been restored in bad cases.

Should great prostration of strength prevail, with spasm, or without spasm, after the other symptoms (vomiting, purging, &c.,) have been subdued, the medicine must not be wholly left off, but given in half or quarter doses, so as to keep up the strength and restore the pulse.

Friction, with stimulating liniment of some kind, ought to be applied carefully to the stomach, abdomen, and legs and arms; and when pain in the stomach has been severe, and there was reason to fear congestion of the liver, eight or ten grains of calomel have been given with good effect.

In cases of collapse and great prostration of strength, the application of the tourniquet to the arms and legs has been recommended, in order, as it were, to husband the vital power by limiting the extent of the circulation. This may be tried, using a ligature of tape or other substance, if the tourniquet be not available.

The favourable symptoms of recovery are, restoration of the pulse, returning warmth of the body, and sleep; and after being refreshed by sleep, the recovery being complete, a dose of castor oil may be given.

[Several writers have very properly noticed the danger as well as absurdity of supposing that any advantage is to be derived from the above, more especially from so minute a dose of assafœtida; they also call attention to the recommendation to give two grains of opium every half hour as one of a mischievous tend-

ency, and likely to cause no small amount of danger, if the public, on the faith of the above communication, take the treatment into their own hands]

SECT. II.—DISEASES OF THE NERVOUS SYSTEM.

ART. 4.—*On Nervous Influence and Derangement.*

By DR. HENRY KENNEDY.

(*Dublin Medical Press*, April 19, 1848.)

[The object of the author, in the following paper, is to illustrate the proposition that "there are certain diseased states of the nervous system exactly analogous to those long recognized in the vascular system; and in many acute diseases this nervous derangement takes the precedence of the vascular disturbance;" in other words, that as there may be hyperæmia of the one, there may be also excess of the other. The author expresses his conviction that the appreciation of this principle will much simplify the study of many diseases. In working out this idea, the author proceeds as follows:—]

In the greater number of diseases which affect our frames, inflammation plays a more or less prominent part. This inflammation presents a great variety of character. It may be acute or chronic, typhoid, healthy or specific. It is modified by the texture engaged, by the period of life, and by numerous other circumstances. Hence we have inflammation treated by stimulants, tonics, anodynes, &c. Concerning several of the diseases alluded to, much difference of opinion exists as to treatment. To some of the latter I would direct attention. Acute rheumatism is met, even in the present day, by different, and even opposite modes of treatment, and each in its turn is successful, or may fail. Bleeding has cured some cases, while in others it has signally failed; and I do believe such patients might have been bled to death, and yet the disease would not have yielded. Yet to all outward appearance the cases where bleeding answered, and where it failed, were similar. Precisely the same has come under my notice as regards opium. It also has succeeded, and again failed, though pushed to the very utmost limits; and so I might go through the entire list of remedies. Now, how are we to account for these anomalies? That there must be some cause for such different results of treatment will, I think, be admitted. My conviction is, that a part, at least, of the difficulty will be solved by a recognition of the principle I seek to establish. I believe that many cases of rheumatism, though presenting all the appearances of acute inflammatory disease, owe this to the deranged state of the nervous system in the first instance. I do not mean to say that the vascular system is not also affected; for I believe no form of inflammation can exist without both systems being engaged more or less, but merely that the nervous is more deeply involved than the vascular system in some instances; and if I may so speak, I would describe a nervous inflammation and a vascular inflammation, and that either may put on the characters of acute rheumatism. This idea appears to me to explain easily the reason why we can cure some cases with opium, and others with bark; both being medicines which I presume will be admitted to act more directly on the nerves than on the blood, as shown by their effects in that class of diseases which come under the head of neuralgia. Or, again, why some cases can only be cured by bleeding, antimonials, &c. In point of fact, it accounts for the discrepancies which still exist on the treatment of the disease under consideration.

That nervous derangement may precede an attack of the most acute rheumatism can scarcely be doubted. I have frequently found, on inquiry, that, previous to the actual attack, the patient had been troubled with pains flying through the body, and clearly of a neuralgic character. As every one is aware, too, this is of frequent occurrence in persons afflicted with gout. Such will suffer racking pains through the ball of the great toe for a certain period, there being no other local symptom present, and then signs of inflammation will make their appearance. But probably this is more unequivocally shown in some neuralgic affections. Here you may have no symptom but pain for three, four, or five days, and then inflam-

mation declares itself. This, as most present may probably have seen, is by no means uncommon in cases of face- or gum-ache. Nor is this a matter merely for a passing remark. On the contrary, I have seldom seen such cases but that they were of a more obstinate character, and required treatment of a very different kind from what was suited to the more ordinary forms of neuralgia. It is important, too, likewise to remark, that the same individual may exhibit, at different times, these two forms of the complaint. A lady, now the mother of a family, was attacked, while at school, with neuralgia of the side of the head and face, of a very severe character. The pain seemed then to be confined exclusively to the nerves. She had several attacks of a similar kind, at a later period of her life. These were all cured by treatment, of which the chief part consisted in the use of the extract of stramonium, quinine, and wine-*whey*. About four years since she was again attacked with her old complaint; but though the same treatment was used as had cured her several times previously, it now was so far from doing so, that it seemed to aggravate her sufferings. In this way matters went on till the fifth day, when mild symptoms of inflammation showed themselves, in slight swelling of the side of the face, stiffness of the jaw, and a blush of redness on the cheek. It would be foreign to the present question to enter into an account of the treatment of this or similar cases. They are merely adduced here as good examples of the principle I seek to establish, which may now be expressed thus—that there are certain diseases attended by the signs of inflammation, but in which the nervous influence is the part primarily and chiefly involved.

But there are other affections which also bear strongly on this subject. Thus the disease so admirably described by Dupuytren, under the name of traumatic delirium, as also delirium tremens, are good examples of the class I mean. The latter disease, more particularly, is a strong case in point. Here you may have all the signs of inflammation existing, and to a very intense degree, and yet all experience shows that the disease must be considered as belonging to the nervous class; that it is to be treated by remedies which act on this system, and that anything of an antiphlogistic plan is attended with positive risk. It is worthy of remark, by the way, that as the excessive use of strong drink acts so decidedly on the nervous system, so when a more moderate use of it is adopted—as when we order it for disease—it may reasonably be inferred that it also acts on the same system.

The consideration of delirium tremens naturally leads to that of fevers, whether belonging to the exanthemata or simple. Of the former I am satisfied that, by carrying out the views now under consideration, a step in advance in the treatment will be gained. I cannot enter here into particulars, but I may state that I have used opium with great benefit in a good many cases of scarlatina; I mean where the disease was still at its height. In smallpox the use of this valuable drug has been long recognised. In some cases, too, of simple erysipelas, or fever with erysipelas, as I believe this affection would be more properly called, I have pursued the same line of treatment, having been led to look upon such cases as instances where the nervous system was earlier and more profoundly deranged than any other. At the present moment I have under my care what, some days since, was a very severe case of erysipelas of the head and face. The patient is a girl, ten years old; and when at the worst, was affected with raving, and a considerable degree of stupor. There was great swelling of the inflamed parts. The treatment, from the second day of the appearance of the erysipelas, consisted chiefly in the use of wine, opium, and subsequently bark. She is now convalescent.

The last class of diseases to which I would advert at present is common Fever: But I must do this very briefly, and in the most general way possible. This part of the subject is of great extent, and, as I believe, importance. From the earliest period that fever has been described, it has been divided into several forms. Thus we have typhus, both congestive and inflammatory; we have synochus and synocha; we have bilious, gastric, and nervous fevers, &c.; and they are all divisions founded in nature. Now, it is scarcely necessary to remind you what a number of cases of fever, and of almost every description, are benefitted by the use of wine—at least at some period of their course. During the past year numerous

instances came under my notice, where, from the moment the patient was admitted, wine was given with the best effects. In other instances, again, preparatory treatment was had recourse to, or time was allowed to elapse, before it was given. In that class of fevers known as "nervous," experience has long since established that anything of pure antiphlogistic treatment must be used with great caution; and, on the contrary, that stimulants of one form or other are productive of the best effects. It may be mentioned in passing, that, during the last year, I have used the class of medicines known as tonics with marked benefit. The older authors recommended them strongly; and I rather think they are at present used less than they deserve to be.

Besides wine, there are certain cases of fever in which opium is of the greatest use. Dr. Graves has directed special attention to its administration in conjunction with tartar emetic; and I have often given it myself under the form of Dover's powder, as well as that just stated. There is one point which meets us in the management of simple fever, and which, as it appears somewhat of a paradox, calls for a passing notice. I mean those cases where, at the same time that we use wine or opium, recourse is also had to local bleeding. This is easily explained. Congestion exists in such cases—as, for instance, in the brain; and at the same time that we are removing it, we have recourse also to the wine or opium.

In all those cases, then, of simple fever, where experience has shown that opium, wine, or other stimulants, are the proper remedies to use, I would explain their beneficial effects in the way already done, when speaking of other diseases—that is, that in such cases it is the nervous system which is chiefly at fault, and, therefore, the remedies known to act specially on it are the most suitable. It is, in point of fact, a state of irritation, and to be treated as such.

Enough has, I trust, now been advanced to illustrate the object I had in view in these remarks. It would, however, be very easy to have enlarged on the subject. Thus I might have entered into the general question of the treatment of certain inflammations by opium alone—a great improvement, for which we are indebted to Drs. Graves and Stokes, and which has been since followed up ably by Griffin and others. Your attention, too, might have been directed to the fact, that in certain cases of puerperal peritonitis, opium is now largely employed. Or I might have spoken of the use of the same drug in Pott's gangrene, and other forms of sphacelus, particularly those that are met with amongst children. Those cases of uterine hemorrhage, in which opium in very large doses has been found so beneficial, might also have been adduced as bearing on the subject; but it is time to conclude. Before doing so, however, it may be well to state, for fear of any misunderstanding, that when speaking of the treatment of certain acute diseases by stimulants and anodynes, I would not have it understood that such means were to be used invariably, or even in the majority of instances; neither would I wish it to be supposed that this treatment is simple and easy of application; I am well aware that it is not so. A consideration of these points, however, I have purposely omitted—at least doing little more than allude to them. But I must repeat that my wish has been to direct more attention to derangements of the nervous system; and this, in connection with certain acute inflammatory diseases, than has hitherto been done. I believe that in the nervous system diseased states exist, which are very analogous to those of the vascular system, and that a full recognition of this principle will help to place the treatment of some inflammatory diseases on a more certain basis than at present exists. I believe, farther, that in certain inflammations, the nervous derangement alluded to frequently takes precedence of that of the vascular system, and that being more deeply involved, it should, therefore, get our more special attention. Hence, as it appears to me, we have a rational explanation of how it happens that the same disease—as, for instance, acute rheumatism—may, and has been often cured by very opposite modes of treatment.

ART. 5.—*Coma from Retained Biliary Secretion.*

By W. H. RANKING, M. D., Cantab.

(Prov. Med. and Surg. Journal, May 3, 1848.)

Dr. Ranking was called about eleven at night, three months since, to the son of an innkeeper, aged 13. It appears that he had returned from school a few days previously, and had gone to bed in apparently his usual health, at ten o'clock. About half an hour before Dr. R. saw him, he roused the house by a most piercing scream, and upon his mother reaching his room, he was discovered sitting up in bed, screaming loudly, and staring with an intense expression of terror into a corner of the room.

Dr. R. found him in this condition, and uttering piercing screams. The countenance was flushed, the eyes glistening, the pulse natural in volume, but a little quickened. He took no notice whatever of any one near him, but continued to stare wildly in one direction, in spite of every attempt to attract his attention. He had vomited once. While Dr. R. was making inquiries as to the antecedents of this formidable condition, he slowly fell upon the bed, and in a few minutes was in a state of complete insensibility. Leeches and calomel were immediately sent for, and in the mean time had him raised up, and kept a continual stream of cold water upon the head, first removing the hair; mustard cataplasms were also applied to the calves of the legs. As soon as they arrived a dozen leeches were applied to the temples; and ten grains of calomel were also put upon the tongue, to be repeated in two hours. Dr. R. staid with him an hour, and left him with returning consciousness, the leeches having bled freely, and the cold douches being continued at intervals of a few minutes. At ten in the morning he was perfectly collected, the bowels had been freely purged, an immense quantity of dark offensive bile having passed. He required no further treatment.

The writer's first impression on seeing this case was, that it was an instance of the sudden invasion of meningitis, an opinion which might have been countenanced by the boy's age, and by the fact that he had lost two brothers, or a brother and sister, of "water on the brain," and was himself of strumous aspect. But the rapid supervention of complete coma, and the absence of convulsions, at once disabused him of this view of the case, and he had, therefore, no hesitation in attributing the symptoms to sudden congestion of the brain, induced either by the presence of indigestible matter in the stomach, or by the retention of vitiated secretions elsewhere. The age was against the probability of the congestion being due to disease of the cerebral blood-vessels, as was his aspect against the suspicion of the agency of general plethora. Dr. R. states, however, that, under the urgency of the symptoms, and the clearness of their indications, he felt inclined to leave the pathology to be determined by the progress of the case. The first object was to relieve the cerebral vessels, which was done effectually by the combined effects of leeching, and the cold douche, the latter especially; the second was to remove the exciting cause, which, as the stomach had been freely evacuated, was judged to be seated in the intestines. This was accomplished by the calomel. Many, the writer observes, would have used the lancet freely; and, as the result proved, by so doing would have inflicted a very unnecessary loss of blood—a loss more easily produced than remedied. The cold douche would, he is convinced, if properly applied, in many cases of threatened apoplexy, puerperal convulsions, &c., completely obviate the necessity of the wholesale blood-letting, too often indulged in in such cases; often, he believes, from the convenience with which the lancet is applied, and the little trouble it involves.

The result of this interesting case will, the author thinks, justify the diagnosis at the head of these remarks, the proximate cause of the symptoms being cerebral congestion; the remote cause, the retention of the fetid cystic bile which was dislodged by the calomel.

[For some excellent remarks on the production of coma by retained secretions, &c., the reader is referred to a paper by Mr. Corfe, (Medical Times, Oct. 9, 1847; or Half-Yearly Abstract, Vol. VI, p. 35.)]

ART. 6.—*Head Symptoms from Overloaded Bowels.*—[The annexed case appears to be similar to the above.]—A little boy, about ten years of age, on awaking one

morning, complained of intense pain in the head, and soon afterwards he began to vomit, the sickness recurring at short intervals. About ten, he had a fit of an epileptic character, which lasted seven minutes, and within half an hour a second occurred, of the same duration. He was seen in the afternoon for the first time. The child was quite delirious, and did not appear to recognise his mother when she spoke to him. On being asked by the writer where the pain lay, he pointed to different parts of the room. The face was flushed, the eyes red and suffused, the skin hot and dry, the tongue furred, with a red tip and edges; the pulse beat 120 in the minute, and was of a full and sharp character. The vomiting had now ceased, and as the bowels had not acted during the day, three grains of calomel were prescribed, to be followed in two hours by a full dose of castor oil, intending to order a depletion of some kind when these remedies had well operated. At his visit in the evening, the writer found him on the close-stool, having just given passage to an enormous semifluid evacuation, which would have been large even for an adult; the motion was healthy in appearance, and had no unnaturally foul smell. The child was now quite rational, its face calm, its skin cool, and the pulse soft, though still frequent. There was no complaint of pain, except a slight griping in the bowels. During the night two full-sized motions, of a similar character, occurred. In the morning he was found well, and so he continued.

Prov. Med. and Surg. Journal, April 19, 1848.

ART. 7.—*Acute Chorea, terminating fatally in sixteen days.* By F. J. BROWN, M. D., Assistant-Surgeon, R. N.

(Condensed from MS.)

William Tanner, aged 22, admitted into Haslar Hospital, under Sir John Richardson, 17th July, 1846. He had previously been, for a few days, in the Infirmary of the Royal Marines, at Portsmouth, where he was purged and bled for cerebral symptoms, as headache, vertigo, with pain in the right hypochondrium. When admitted into Haslar he was cold and collapsed, with feeble pulse, 78. Under the exhibition of wine and water reaction ensued; the pulse rose to 84. Considerable jactitation, short cough, and perfect consciousness. Eighteen leeches were applied to the chest, and antimony and calomel exhibited.

18th. Had slept well, but complains of headache and pain in the right side. Scalp shaved and blistered. In the afternoon tossed his head about, and complained of pain in the occiput, pulse 72; strangury from the blister, which was relieved by mucilaginous drinks. Eighteen leeches to the nucha next day; considerable fever, with convulsive agitation and throwing about of the body and limbs. Two thirds of a grain of tartar emetic every four hours. At night the convulsive movements are great, and increased by the approach of any one to the bedside. Consciousness perfect. No tenderness of the spinal region; pulse 80.

21st. Jactitation was continued; no sleep last night. Liq. opii sedativ. ℥60, in three doses, procured sleep. The struggling comes on in violent paroxysms, but is never still except while sleeping. He spits with violence about his bed. In the evening, the convulsive movements excessive; he draws up his legs and kicks them out with force. Mouth and nose retracted to a great degree: (risus sardonius—Ed.) Mind now slightly affected during the paroxysms; pulse 80.

22d. Movements so excessive as to require a strait-jacket. Belladonna rubbed into the spinal region. Flatulence great, for which draughts of Sp. ammon. foetidus were given. Croton oil caused immediate vomiting.

25th. Has continued much in the same state; this evening looks wild, and has daubed himself with his faces. "His mind is diseased, he is raving, and constantly pulling his person about." Removed to the lunatic department.

From this period the patient became more and more exhausted, the involuntary movements continuing until near his death, which took place on the 29th July.

Post-mortem, 17 hours after death.—The body presented a mass of abrasions, produced by his struggling and throwing himself about the room.

Cranium. Brain healthy, slightly congested. Sinuses of the dura mater full of blood. A large coagulum in the left lateral sinus. Veins of the corpora specula

congested; membranes about the pores also congested. Half an ounce of serum at the base.

Spinal cord. Firm and healthy; arachnoid investment and subjacent tissues presented numerous red streaks, and at the apertures at which the nerves passed out, exhibited an inflammatory redness: an ounce of fluid in the canal.

Thorax. Old pleuritic adhesions on the right side; lungs healthy; heart normal, or nearly so.

Abdomen. Liver enlarged, fatty; spleen fatty; kidneys healthy. Stomach empty, also healthy. Sigmoid flexure of the colon highly congested. Small intestines deeply congested; the ileum contained three invaginations. No other diseased appearance.

[Upon this unusual case the narrator makes the following reflections]:—

Reflections.—The following considerations occur to the reader of the preceding details. The subject of the disease was a healthy young man. He had been nineteen months in the marines, and was therefore neither a recruit, affected by the sudden change of life that necessarily follows enlistment, nor an old soldier, with a constitution impaired by excesses. He had never been in a foreign climate, and he was noted as being temperate and of good character. He had lately returned from Ireland, and was thought to be labouring under some trouble of mind. His illness must be considered as commencing six weeks previously to the 13th July, when he was suddenly seized with vertigo whilst on guard at head quarters. He continued to do duty after a few days' intermission, but found himself daily losing control over his lower extremities, and he experienced considerable weakness in them.

When he presented himself at the infirmary, his chylopoietic organs were in a state of derangement as regards their functions, and the nervous system was disordered; whilst the vascular system was unaffected.

There is no report of the condition of his stomach and bowels on his first seizure. The giddiness, and weakness of his limbs, are evidence of both the cerebral and spinal centres being in fault, whether primarily or secondarily cannot now be determined. His low state of spirits might exist in either case. On the 13th July, the ganglionic system was affected, together with the cerebro-spinal.

From his consciousness being perfect, the cerebral hemispheres may be excluded from consideration, and attention directed to the mesocephalon and its extension, and the ganglionic system.

The absence of vascular and respiratory morbid phenomena until a late period render the primary affection of the cerebro-spinal centres unlikely, whilst the pain in the right hypochondrium, which never ceased throughout the disease, connected with deranged secretions and imperfect natural functions, is an additional reason for not ascribing to those centres the first morbid agency. The quietness of his sleep furnished another reason to the same effect.

The secretion of bile and urea took place during the period he was under treatment; for the former was noticed in matters vomited and in his stools, and his urine was natural in appearance, though he suffered from dysuria.

The deranged secretions were exhibited principally in an extraordinary production of inodorous gaseous matter, and disordered peristaltic actions of the intestines, or inactivity was shown by costiveness; but as the bowels acted easily for the most part, when influenced by medicine, no mechanical obstruction of importance could have existed.

From the dysuria resisting ordinary remedies, it may be ascribed to the condition of the nervous system constituting the disease, but it must be remembered that turpentine and blistering had been used.

The muscular movements were noticed on the 16th July, and had been preceded by somnolency for two days. They ceased only with death, except during sleep, which was perfectly natural and free from any phenomena of disease. The movements were irregular and variable, increased by the approach of any person, and paroxysmal: they were "fidgets" in excess. He was capable of combined movements, such as walking, but could not avoid jerking and irregularly moving his head and extremities, and his trunk also. The muscles of the jaw acted in a convulsive manner; but mastication and voiding of saliva could be performed.

The whole of his muscular movements were uncontrollable rather than convul-

sive. The muscles of the face contracted occasionally so as to alter materially the features. The eyeballs were not distorted or fixed, and the pupils were natural.

If the whole of the *mædulla oblongata* were involved, it would be difficult to explain the exemption of the eyeballs from movements, and a fixed or tonic spasm was not the condition observed anywhere. It is remarkable that the pupils were unaffected, as disorder of the ganglionic system in children frequently produces alterations in the iris. It was noticed that the extensor muscles were most affected.

The cunning expression of his countenance it is difficult to understand, as his mind was not disturbed except at the height of a paroxysm, when it appeared to suffer from excess of misery.

There was an idea constantly present that his bowels were not open. The sensations experienced by him in the abdomen, and continuing after stool, were probably the reason he could not believe that he had had a motion. He felt but little relief, and was probably cognisant of the volvular sensation of intussusception, though he did not complain of such.

Restraint was shown to have an irritating effect on his mind. Singing was a strange symptom. He must have been in great distress, his body being excoriated and his muscles tired.

Was it a condition of the mind succeeding the greatest discomfort sustained for the longest possible time—a state of involuntary comfort and endurance following involuntary discomfort and impatience, as a pendulum moves from one side of its arc to the other? Or was it the musical disposition or state of tune seen in *Tarantism*?

He never danced, and the effects of music were not tried upon him.

There was altered sensation, which was referred to the extremities of the nerves of the fingers and toes, such as burning; but there was no sensible heat in these parts.

He first complained of feeling ill on the 25th. To that day he always said he was well, but required his bowels to be open, and complained of pain in the right hypochondrium.

The pulling about of his person seemed entirely due to anxiety to get clear of the intense uneasiness that he felt in his abdomen. The intussusceptions might have caused this uneasiness, which, however, might be the consequence of the diseased condition of the spinal cord and sympathetic centres of the abdomen. The intussusceptions produced no mechanical obstruction to the passage of *fæces*, and no *iliac vomiting*.

It is probable they were made and unmade several times during the course of the disease, and arose from an abnormal action of the muscular parietes of the intestine, of the same nature as that affecting the locomotive muscles.

Dr. Good's explanation of the formation of the foldings may be called to mind, one part distended with gas, whilst spasmodic or inverted peristaltic action of another part accomplishes the involution. The stimulus of a purgative might enable the ordinary peristaltic movements to overcome those of an extraordinary kind.

In the case under consideration, however, there was no colic to evidence spasm. To this circumstance may be attributed the easy unfolding of the bowel, there being no constrictions.

There was abundance of gas and abnormal muscular action. These together gave rise to involution: but there was no spasm to continue it until feculent masses might obstruct the reduction, or inflammatory effusion cause it to be impossible. In examining the bodies of infants, I have seen two instances of intussusception twice or thrice repeated in the small gut, which had been unmarked by symptoms during life, death having occurred from a different cause. Was the intense congestion of the small intestine due to the intussusceptions?

If so, what caused the congestion of the sigmoid flexure of the colon?

It must be remembered that the patient took strong purgatives at various times. There were no inflammatory products; and he had not, during life, the symptoms of inflammation, viz: hard pulse, nausea, tenderness of abdomen, or obstinate costiveness. There was tenderness of the hypochondrium at the first, but it soon went off, though the pain continued. He died by exhaustion, and his consciousness was perfect.

The post-mortem appearances in the skull and spinal canal were probably effects and not causes of the disease; and I think the same may be said of those in the abdomen.

The sinuses of the skull being congested, and a clot being found in the left lateral sinus, might be expected to have given rise to different phenomena if they were causative. Congestion of the veins of the corpora striata might cause forward movements, according to Serres' views, but it has been noticed frequently without such effects. The congestion of the vessels at the base of the brain, and the serous effusion, half an ounce, are sufficiently common occurrences. The substance of the brain and cord was sound. The amount of fluid in the spinal canal, one ounce, was not abnormal. There was no evidence of inflammation of the meninges of the cord, no products of inflammation.

I greatly regret that Dr. Andrew Clarke, the Pathologist of Haslar, was not at the hospital at the period of this case, as his skill in the use of the microscope would have determined whether there were any exudation-corpuscles or not.

There was no lymph deposited on the membranous surfaces, and no opacity; and the red vessels were loose, and could be moved by the blade of the scalpel laid on flatly.

The analogy of this affection to chorea, in constant, uncontrollable movements of the muscles (except during sleep), aggravated by observation, is so great, as to leave no doubt of its coming under this genus.

Flatulence and tympany were noticed in the earlier forms of chorea that appeared in the thirteenth and fourteenth centuries.

The difference of result betwixt ordinary chorea and the case under consideration, and the short course of the latter, need not excite wonder, when the violence and continuance of the movements be taken into account. Indeed, it is difficult to understand how those extraordinary cases on record,—as of a little girl by Dr. Watt, mentioned in the 'Library of Medicine,'—where revolutions and other movements were continued for months, could have had a favourable termination.

This case appears to me to have been chorea in an acute form, and calculated to illustrate the nature of that disease, which is a morbid condition, non-inflammatory, of the ganglionic and cerebro-spinal centres, not affecting the cerebral hemispheres.

The symptoms are those of disturbed natural and animal functions, whilst the vital remain unaffected.

The mind is liable, in some cases, to some impairment, as might be expected in hypochondriac affections.

The true pathology may be, however, a morbid condition of the ganglionic centres, the animal phenomena being the result of reflex action through the cord.

The treatment employed exhibits the inefficacy of mercury in alterative doses, also of narcotics.

Opium was given in considerable quantities with but little effect, for he slept but nine and a half hours in as many days, and felt no calmative effect from the drug.

As much as 660 minims of laudanum and sedative liquor of opium were administered in ten days, and the cannabis indica was equally ineffectual; as also belladonna rubbed over the spine.

Bleeding and enemata afforded most relief.

It appears to me that, after premising the treatment by depletory measures, steady action on the bowels and chylopoietic organs, by warm purgatives and clysters, together with the use of nervines or metallic salts of copper, silver, arsenic, zinc, or iron, would offer the best chance of success.

Remedies directed to the improvement of the natural functions were strongly indicated; and, secondarily, **tone to the nervous system.**

If ether had been in use, its inhalation would have been a trial of the narcotic plan of treatment in a form fitted quickly to affect the nervous system.

Chloroform may be an agent of some utility in future cases, for its action has some resemblance to that of prussic acid, producing tonic spasm; and I think it better to apply to practice, in nervous diseases, the axiom, "*similia similibus curantur*" than "*contraria contrariis opponenda*."

ART. 8.—*Chorea treated successfully by Chloroform.*—Mr. Harris, of Botesdale, relates the following:—The patient was in her seventeenth year. The immediate cause which gave rise to her complaint was fright, the system being, doubtless, predisposed to its influence, owing to a chlorotic state of constitution. The ordinary remedies, purgatives, either simply or in combination with one or other of the mineral tonics, constituted the general treatment for the first ten days of his attendance. The symptoms gave, however, no perceptible evidence of any improvement; the involuntary muscular movements of the extremities especially, as well as those of the face (causing the countenance to be at times hideously distorted), continued rather to increase than otherwise, which, together with a constant state of watchfulness by night and day (in spite of opiates), contributed not a little to her exhaustion and suffering.

The Chloroform was used every day for a week, preserving its influence with her on each occasion for about half-an-hour, when the muscular movements became almost magically arrested. Upon recovering from its influence the muscles again renewed their excitement, but with perceptibly diminished intensity of action. The night rest also became good, and opiates were unnecessary. Believing that these beneficial results might be attributed mainly, if not wholly, to the chloroform, Mr. Harris continued its use twice a day for a week longer, extending its influence over an hour each time. It is deserving of mention that medicine was also regularly persisted in.

Lancet, June 3d.

ART. 9.—*A Severe Case of Facial Neuralgia successfully treated by Creasote.* By THOMAS KELLY, Esq., of Donaghadee, Surgeon, &c. Some time since the author was requested by the relatives of a lady who resided in this place to visit her, as she was labouring under a severe attack of facial neuralgia. She seemed to be a person about the middle period of life, and otherwise of a healthy constitution.

Previous to his visiting her, she had been under the treatment of two other medical gentlemen, who had administered various forms of antispasmodics and narcotics, all of which afforded her no relief.

On his visiting her, she stated that she had been several days ill with the present attack, and had suffered under the disease periodically for many years.

A violent paroxysm attacked her in his presence: she fell senseless on the floor. The convulsive twitching of the muscles of the face at once proved it to be a true case of facial neuralgia. Ordered—

R Creasoti, gtt. iij;
Macæ panis, q. s. ut ft. pil. iij.

Sig. i. tertiis horis.

In six hours afterwards Mr. K. saw her; no return of paroxysm; she expressed herself grateful, as she had not had so much remission from pain for many days. Ordered—

R Ol. ricini, ℥j;
Aq. menth. pip., ℥j.

M. ft. haustus hora somni.

On the following morning he again visited her; she had one paroxysm during the night, but much milder than before; she had had some chocolate and dry toast for breakfast.

R Rept. pil. ut. heri.
Sumat. i. meridie nocteque.

On the next day there was no return of disease; she seemed quite happy and in excellent spirits. The treatment was discontinued, and it is now more than a year since, and there has been no return of disease whatever.

Dublin Med. Press, Sept. 13th.

ART. 10.—*Remarkable Case of Hysteria.* By R. WEST, Esq., Surgeon.

(*Edinburgh Med. and Surg. Journal*, April, 1848.)

On the 8th of September, 1842, the author was sent for to visit Miss Susannah

A., a slightly-formed delicate-looking girl, aged nearly 12 years; rather tall for her age, with fair hair and complexion. She had for some months before complained of occasional pain in the side, with now and then slight difficulty of breathing. On this occasion the difficulty of breathing was a good deal increased, every inspiration being accompanied with a wheezing noise. The author looked upon the affection as spasmodic, and prescribed accordingly.

Sept. 10th. She felt better; but observing a kind of smile on the patient's countenance, it struck him that the case was one of hysteria, which was proved to demonstration by taking advantage of the involuntary imitation which is characteristic of that affection. Perseverance with antispasmodics was still indicated.

The next evening, September 11th, being Sunday, the author was sent for suddenly, and found his patient in a violent hysterical paroxysm, which, notwithstanding the application of mustard poultices to the nape of the neck and the calves of the legs, continued unabated for more than four hours. This paroxysm was characterised by the ordinary series of screamings, laughings, cryings, chokings, and strugglings with her attendants, being accompanied by the usual inability to swallow. The next evening the fit came on at the same hour, but mustard poultices being applied at once, it lasted only about an hour. This kind of counter-irritation was applied every evening for the remainder of the week, but by the Sunday following, September the 18th, its good effect was almost entirely lost, as the fits had become every evening longer and longer. During this week the different antispasmodics had been given without the slightest benefit, besides blistering the nape of the neck.

Throughout the next week the fits continued to recur every afternoon earlier and earlier; they were also every day longer and more violent, being attended with screamings loud enough to be heard at the distance of a mile; and the patient could not be hindered from frequently running out of doors and exhibiting various strange antics in her father's yard, such as running nimbly along the tops of some palings, and performing similar feats of extraordinary and unnatural agility.

About the 25th of September there began to be a short fit every morning, which at first was only about ten minutes in duration, but gradually increased in length until the 7th of October, when, after an emetic, which was given to her on that day, the morning fit lasted until the time for the afternoon one to begin; and henceforth she had but one series of fits in the twenty-four hours, lasting, at this date, from six in the morning until five in the evening.

On Sunday, the 2d of October, a very marked change took place. In addition to the continued hysterical condition, she began to have, regularly every hour, a paroxysm lasting about ten minutes, in which she lay extended on the sofa, perfectly rigid and perfectly straight. The extensor class of muscles chiefly was excited; the arms were held straight upwards, and there was a continual snapping of the jaws. Dr. Mason Good describes a somewhat similar condition under the name of *ecstasis*. It was not *cataplexy*, for the limbs were perfectly immovable. This state ceased quite suddenly every time; the patient would jump up from the sofa, and, relapsing into the simple hysteric state, would continue running about, laughing, crying, and screaming, until the next rigid fit.

The next Sunday, October the 9th, there was another change. A fit of *ecstasis* came on every hour, in which the position was the same as in the last described; but it was attended with tremblings, and there was no snapping of the jaws; and in place of the latter symptom, she would, every minute or so, raise herself up and knock her head backwards on the sofa three or four times with great violence. We called these *knocking-fits*, for want of a better term. Her relapse into the simple hysteric state from every one of these fits was preceded, first, by a peculiar *curling* motion of the hands, difficult to describe—she looked as if she were *unscrewing* herself—by a sudden turning on the face; and lastly, by a *gasping* motion of the jaws.

On the following Sunday, October 16th, another change took place. And, in fact, it began to be remarked that a change of some kind took place every Sunday, and by this time it was looked for. She had a spasmodic fit every hour, as during the two preceding weeks, but it was now complete *emprosthotonos*, attended with a moaning noise, a ghastly grin on the face, and a chewing motion of the jaws, during which it was necessary to place something between the teeth lest she should

bite her tongue; this grin being every now and then exchanged for another form of spasm, in which the mouth was fixed rigidly wide open, and the eyes were staring and unwinking. While in this condition of *emprostotonos*, she would make painful attempts to rock herself from side to side. After a day or two had been passed with these fits, we thought of putting her into a child's cradle as soon as the spasmodic state came on, by which means the rocking propensity was easily satisfied, and her apparent distress was much diminished. She came out of every one of these fits by the same process as out of those of the week previous.

The following Sunday, October the 23d, in addition to frequent fits of *emprostotonos*, she began to have some *cataleptic* seizures, each of which was prefaced by a strange series of manœuvres. Thus she commenced—after a trembling of the hands and head, by leaping wildly on the sofa, and then rather *flying* than running from one side of the room to the other, returning to the sofa backwards for another fly. Two of her sisters were usually obliged to attend, one on each side of her, during these *flying fits* as we called them, and hard work it was for the poor girls, for they were soon almost out of breath. These *flyings*, after lasting about five or ten minutes, were always terminated by a sudden dropping of the head on one shoulder. She was then carried off by her attendants to the sofa, in a rigid *cataleptic* state. Her limbs could be bent, but it was like bending a piece of lead, and in whatever position they were placed so they remained. While lying in this condition, she cowered like a cock during every inspiration. This crowing gradually ceasing, a trembling of the arms came on, which increased in intensity until the movements had the appearance of *epilepsy*. After a few more minutes these movements ceased, and then, after a rapid winking of the eyes, she fell asleep, in imitation of the coma which usually follows *epilepsy*. After about five minutes of this sleep, she rose up, stretched herself naturally enough, and then relapsed into the hysteric state again.

The author here describes the manner in which the whole series of fits invariably terminated every day at this stage of the affection: "From being hysterical, she would become *emprosthotonic* for about one hour, being rocked, with the grin on the face. Towards the termination, she would have two fits of *inverted trismus*. Then the *curling* and other movements, described above, would take place; after which she would jump up quickly, snatch a pillow from the sofa, and walk into the kitchen. She would then march seven or eight times round the table, singing all the time, and finishing her march by suddenly jumping like a cat into the cradle. She would then leap up, march round the table six or seven times as before, and jump into the cradle again; for the third time she would repeat her marching and jumping into the cradle; she would then stretch herself out, and commence wringing her hands for a minute or two, after which she would, softly, and in a whisper scarcely audible, mutter "I am better."

To describe the distress of the family at this period would be quite impossible. In addition to the anxiety naturally caused by the anticipation, that, if the disorder continued to advance, so that the series of one day should run into that of the next, it must prove speedily fatal from the total inability of the patient to take any nourishment at all—there was the incessant bustle and confusion, all night and all day, caused by the actions of the unfortunate girl. When not affected by any of the spasmodic fits, there was an under current, so to speak, of hysteria constantly going on with her. This permanent hysterical condition, which was the foundation of the whole disorder, had some peculiarities which are worthy of record. The appearance and actions of the poor girl were quite those of a maniac. She was wont to converse in the most animated manner with those around her, but always preferred the most abhorrent subjects. She had nicknames, abuse, and even blows for every one that approached her, if by either word or deed her capriciousness was at all excited: for example, if any one offered to shake hands with her on leaving the room, she would double her fist, strike him a heavy blow on the face or shoulder, and with an exclamation "You old devil!" run out of the room. All this was so far from being her natural disposition, that she appeared throughout this strange affection to have two distinct and separate existences. In the one, she was a mild, weak, timid, gentle girl, not able to walk or stand by herself; in the other, she was a turbulent, noisy, strong, voluble hoyden, keeping

every one on the alert with attending, now to her caprices while merely hysterical, and now to her entirely involuntary actions when affected with spasmodic movements. These existences were distinct in another sense, for whatever she said or did while in the one state, she had no recollection of while in the other; this recollection invariably recurring with the return of that state in which the particular event took place. This peculiarity was frequently tested, and always with the same decisive result. But the point of dissimilarity between the two states which was of most importance, and which threatened the most serious consequences, as the complaint reached its acme, was the fact that it was only during the natural, or non-hysterical state, that the patient could take any food; that inability to swallow, which, in a greater or less degree, always attends the hysterical paroxysm, being well marked and complete throughout the whole duration of every series of fits. The poor girl's fantastic sayings and doings, while in the hysterical state, reminded one forcibly of the tales of possession of which we read in the Scriptures; another and a malignant spirit appeared to be speaking with the tongue, and acting with the members, of a being who was, in her healthy state, altogether incapable, either morally or physically, of such sayings and doings.

Nothing in the way of treatment had been of the slightest avail in checking the onward progress of the malady. The usual diffusible stimulants, including the fetid gums, were administered, in addition to counter-irritation with mustard poultices and blisters in the first instance, and subsequently with tartar-emetic ointment along the spine. The cold affusion was frequently used. Carbonate of iron in large doses was given, and oxide of zinc, nitrate of silver, and musk, were successively exhibited as tonics; quinine, as an antiperiodic; and purgatives, and alteratives, and full doses of morphine, were all administered alternately and successively. Thinking it possible that tape-worm was the cause of the irritation, we tried large doses of turpentine. But every thing was either perfectly useless, or, like the emetic, which was given one day with the idea that the shock of it might prevent the accession of the fit, did more harm than good.

On weighing her, it was found that she had lost only four pounds, which was somewhat extraordinary, considering the small amount of nourishment she was enabled to take, and the violent exercise she underwent every day. The manner in which she was in the habit of coming out of her catalepsy, when it did not run into epilepsy, was curious. The stiffness did not entirely cease until she had herself, with each hand, opened one by one all the fingers of the other hand from a semi-flexed position. The first set of fingers was opened slowly, because the hand which was the agent was still cataleptic, and proceeded by pushing itself clumsily against each finger; the other set was opened very quickly, because the hand which was then the agent was freed from catalepsy, and proceeded very dexterously. When every finger was opened, she would frequently exclaim delightedly, "They're all done now!" as she jumped up with a wild hysterical laugh.

Taking a hint from the success which had attended the use of the cradle in relieving the rocking propensity which accompanied the attacks of emprostotonos, I recommend that a *swing* should be tried, for the relief of all parties during the flying fits, which were daily becoming longer in duration and more vehement.

Nov. 22d. After three P.M. she has now every day *three* independent epileptic seizures, the first a very bad one; each going off into a disturbed sleep, which is followed by a fit of choking and retching, very distressing to all appearance. The hysterical states, with which these attacks alternate, are characterised by much singing in a low tone, and some screaming and laughing. Some time after the third epileptic fit, she goes off from the hysterical condition into a flying fit. They have got a swing for the flying fits, which answers perfectly. They find that if they delay long in putting her into the swinging or flying motion, her agitation increases rapidly; she appears to lose her sight, not being able to see the ropes of the swing, which she can readily do if carried or led to it soon enough; she also holds her breath in a painful way. This condition quickly goes off when she begins to swing; she becomes quite cheerful, laughs, and seems delighted. After swinging at least half an hour, she suddenly sinks into the cataleptic state, the crowing being very loud, and the mouth drawn alternately from side to side, while making an inspiration. She opens her fingers one by one as described above, and then, after being hysterical again for about half an hour, she suddenly doubles

up into the emprosthotonic state. She was only ten minutes to-day completely free from her fits. She comes to herself every day at half-past eleven, after walking with the pillow as described above, and begins again with a swinging fit, fit succeeding fit all day and all night.

Nov. 28th. Nearly the same as last report. About ten minutes to spare for eating and drinking, but rather inclined to be hysterical at the same time. She has the same daily series of fits. They have counted thirty-one changes in the twenty-four hours, reckoning each hysterical state as a change, but considering the swinging, the cataleptic, and the accompanying crowing fits as one fit, inasmuch as they invariably form one process. The chokings, which now always succeed every epileptic sleep, are violent beyond description, and last a long time. During the choking there is sometimes a cessation for a few seconds, but then the epileptic twitchings take its place, and altogether the epileptic state is so much worse, that to-day the three fits of the afternoon, beginning at three and ending at half-past five, have run into one, that is, another fit immediately following the chokings. She has been observed to sweat very much during the night.

Dec. 2d. A change manifestly for the better. She has had an hour and five minutes free, and, as soon as she came to herself, declared herself better, and said she was sure she should have more time to-day. She missed one of the epileptic fits in the afternoon. Otherwise the same.

Dec. 3d. One hour and ten minutes free. Rather more rational in the hysterical condition, during which she knitted a pair of garters for "the old fellow," as she calls her father.

Dec. 4th. Two hours and a half free. Missed the worst epileptic fit, so that now she has only one instead of three, and the chokings have entirely ceased.

Dec. 5th. Five minutes more. In the swinging fits she is more rational. She says, "make haste to put me in." She can leave the swing and run to the door. The fits of inverted trismus have ceased during the emprosthotonic attacks. She no longer walks with the pillow.

Dec. 10th. Three hours and three-quarters free, having gained a little every day since last report. Came to herself for twenty minutes in the afternoon.

Dec. 11th. Six hours and twenty minutes in her natural state, all in one period.

Dec. 13th. Still six hours and twenty minutes. More rational in the hysterical state, and still more quiet in the swinging fits. When seen at half-past six in the evening, she had just come out of an epileptic fit. She went into the swing at a quarter-past eight; swung half an hour and five minutes. The cataleptic state which succeeded was attended with occasional twitchings, though at the same time the rigidity was still truly cataleptic; the twitchings came on when she was not able to crow clear. She had also several stoppages, or rather holdings, of the breath, during which the face became flushed.* She opened her fingers before relapsing into the hysterical condition, as usual. This day, while hysterical, she sucked an orange and swallowed the juice. She is so weak, when quite right, that she can neither stand nor walk by herself, and looks now somewhat shrunken in the face. She slept for the first time on the sofa last night for three hours after an epileptic fit, that is, not doubled up. This sleep was altogether of a different nature to the short snatches of a few minutes which previously followed each epileptic seizure.

Sunday, Dec. 18. All the past week continued to have from six to six and a half hours free. This day she had eight hours, but it was interrupted by an interval of a quarter of an hour, during which she was hysterical slightly.

Dec. 21st. Still eight hours free. Missed one emprosthotonic fit last Sunday, and another last night, so that she has now only two seizures of this kind in the twenty-four hours. She cast up a sum correctly this morning while in the hysterical state. This afternoon she was knitting after two short swinging fits which commenced the series. Before she sat down to knit she scratched and fought her sisters. She knitted with great rapidity. When right, she is unable to knit or

* These holdings of the breath did not by any means seem to depend on a closure of the larynx, but rather on an apparently obstinate refusal to allow the muscles concerned in expiration to act; the breath escaping at last with quite a burst, when it could be held no longer.

walk, or make the least exertion, apparently from complete exhaustion. Begins to have some recollection, when in her natural state, of events which have occurred to her when hysterical.

After this she continued to gain ground rapidly. There was, generally, a decided change for the better on a Sunday. Every week or so missed one or two convulsive or spasmodic fits.

Feb. 20, 1843. No convulsive or spasmodic fits at all. Hysterical for half an hour.

During this week, Miss A—— daily continued to regain the use of her legs while in her natural state, and she was speedily as well and as strong as ever, with the exception of a slight hysterical attack every evening from half-past eight to nine. Some time in May her father took her to visit an uncle, who resided at some distance. Returning in the evening, they did not arrive at home till after nine o'clock. She had missed her fit. Upon this hint, therefore, we acted. Every evening she took a ride out on a pony, taking especial care not to come in before nine. Once or twice, when she happened, from not knowing the hour, to come sooner, the fit returned. This system was kept up till the days got too short; and then the little hysterical attack returned as before, every evening.

At the end of the first week in the following September, it being exactly a year from the commencement of the disorder, Miss A—— complained of feeling poorly. A few days after, her evening hysteria began earlier, lasted longer, and was accompanied by an epileptic fit. It was feared that her troubles were about to return, but it was a false alarm. The next evening she had no fit at all.

In September, 1844, it being just two years from her first seizure, she had a fit of hysterics, not attended with convulsive twitchings.

Since then she has had no return of her peculiar affection, at least in anything like a periodic form. A piece of ill news suddenly conveyed to her would bring on an attack; but that kind of thing is a different affair altogether. She did not menstruate until she was nearly sixteen; and, since the establishment of that function, she has been entirely free from hysteria in any form.

[The author's remarks on the above case are as follows:]

What was the irritation in this case? If it was uterine, it was strange that it should come on so early, before the average age at any rate; and stranger that the affection should be so much ameliorated, although the patient, having arrived at a proper age, had still not menstruated. And yet her complete restoration at the present date would almost seem to warrant the opinion.

Were the perspirations, which were observed just before the first favourable change took place, critical?

The recovery of this patient, without the aid of medicine or remedial means of any kind, is deserving of notice, chiefly for this reason. It is obvious that, but for the extraordinary severity of the affection, which, in its acme, did not give us an opportunity to try any plans at all, we should have continued to persevere in some scheme or other, and that that plan, whatever it might have been, which we might have been trying at the time when the malady began to decline, would have had all the credit of the cure. Let this be a lesson for us all.

I omitted to mention, and it was scarcely necessary to do so, that the different excretory functions were performed with sufficient regularity throughout, and in either state indifferently.

With reference to the regularity in point of time of the different seizures, and the steady advance and decline of the malady, it is somewhat remarkable that every *seventh* day should have been so noticeable throughout the whole period. Surely there is more than is "dreamt of in our philosophy" in the connexion between the human constitution and the days appointed by Infinite Wisdom for cessation from toil.

Since writing the above, I have had the opportunity, afforded me by the kindness of their distinguished author, of reading two excellent "Essays on the Theory of Convulsive Diseases," by Dr. Marshall Hall. It would ill become me to put forth any remarks, which would have the appearance of contradicting any one of the deductions of so acute an observer, and it is, therefore, with no little hesitation that I venture to observe that I am a good deal staggered by one of the statements contained in these essays.

At page 43 we read: "As a part of the epileptic seizure of the most pathogno-

monic character, I must briefly notice another symptom, . . . it is the *odaxismus*, or bitten tongue, lip, or cheek." And again, at page 57—"But when laryngismus, and especially when *odaxismus* occurs, there can be no doubt that the case is epileptic. This last is the most pathognomonic symptom of this dire malady." (Vide "Abstract," Vol. VII., p. 172.)

Now, in the case above feebly described, not once only, but some hundreds of times, we had this very symptom which Dr. Hall proposes to term *odaxismus*, occurring as an accompaniment of certain seizures of a tetanoid character. I allude to the very frequent attacks of *emprostotonos*. There was no mistake about this symptom; it was one of those which gave the greatest trouble to the attendants in watching the patient. In the first seizure of the kind the tongue was cruelly bitten; it was seen to be necessary to do something to prevent this, and, therefore, in every subsequent fit, the handle of a tooth-brush was kept in readiness to be thrust between the teeth. When the fits of inverted trismus took the place of this *odaxismus*, the tooth-brush dropped out of the mouth; the same occasionally when sleep came on in the *emprosthotonic* state: it was, consequently, necessary to watch carefully for the return of the moaning, that the tooth-brush might be replaced at the proper time. Miss A—— keeps this brush as a curiosity; the handle is, indeed, curiously worn, and indented by frequent bitings.

If these seizures were *tetanic*, then *odaxismus* may occur in tetanus as well as in epilepsy.

But they were not *tetanic*, they were *tetanoid*, I take it; that is to say, they were *hysteria*, simulating one of the forms of tetanus. *Odaxismus*, therefore, may occur in *hysteria*.

And yet, if the last paragraph quoted from Dr. Hall means anything, it means that *odaxismus* cannot occur in any other affection than genuine epilepsy.

It will not do to say that the *emprosthotonic* seizures were simulated epilepsy, unless it be contended that *odaxismus* by itself, without any other convulsive movement, will constitute the affection. *Odaxismus* is pointedly said to be only a *symptom*. The rocking propensity in these attacks was not by any means a convulsive movement; it was an effort to relieve some uncontrollable sensation, which was effected equally well, nay, better, when the body was moved from side to side by another person, as was done in the cradle. With the exception, therefore, of the movements of the jaw, there was nothing like convulsion present; the whole body was perfectly stiff, the flexor muscles being all contracted.

And again, it must not be said that no conclusion can fairly be drawn from symptoms arising in a simulated affection. The fact of *odaxismus* occurring at all as a simulated symptom, or in a simulated malady, must deprive it of its claim to be a test of the genuineness of any complaint whatever.

Nor would it be right to say that its occurrence in a single case only ought not to be taken to prove anything. The evidence afforded by one affirmative case must outweigh that of a thousand negative ones.

I repeat, that it is with much diffidence that I venture upon these remarks. I make them more by way of inquiry than assertion, as it is possible the matter may be capable of explanation.

Dr. Hall insists much on the fact, that complete laryngismus is necessary to cause epileptic twitchings. Now, the crowings which occurred in my case were specimens of the imperfect kind of laryngismus, which, he says, may occur in *hysteria*; and it is a curious confirmation of his theory, that a kind of epileptic twitching took place in the case, when the patient "was not able to crow clear,"—i. e., when the laryngismus was more complete. It is curious, as showing that even in *hysteria*, to which affection the theory is not applied, *simulated* laryngismus may cause *simulated* convulsions.

SECT. III.—DISEASES OF THE RESPIRATORY SYSTEM.

ART. 11.—*Clinical Lecture on the Varieties of Pneumonia.*

By J. F. DUNCAN, M. D.

(*Dublin Medical Press*, Aug. 9, 1848.)

Medical writers, in treating of pneumonia, recognize a number of varieties, some of greater, some of less importance in a practical point of view: but all of which it is necessary you should be acquainted with. They may be divided into two great classes, according as the distinctions are drawn from anatomical appearances after death, or the symptoms observed during life. In the first of these must be placed the vesicular, lobular, lobar, and hypostatic varieties; in the second, the regular, typhoid, and latent. At present, I intend to occupy our time principally with the last three of these as bearing more immediately upon the case under consideration. First, then, of regular pneumonia: This occurs usually in the young and vigorous, whose constitutions have been unimpaired by previous excesses, and who are liable to all the exciting causes of ordinary inflammation. It is characterized by high fever, dyspnœa proportional to the extent of lung actually implicated, pain in the chest, a peculiar cough, and occasionally, at least the specific expectoration of pneumonia. These symptoms, from their marked character, can scarcely fail to direct attention to the respiratory organs, and to lead to a careful examination. Anatomically, the disease has been divided into three stages: in the first, or that of engorgement, the lung is distended in volume, and does not collapse on opening the thorax, as a healthy lung ought to do; its density is increased, though it may not absolutely sink in water; it is mottled externally, of a brown red color and dingy aspect; it pits upon pressure, is not so tough and elastic as usual, nor does it crepitate freely between the fingers. On making an incision in the part, a quantity of frothy and sanguineous fluid exudes; the cellular structure is indistinct, and the bronchial ramifications of a brownish red colour, with rusty-looking fluid in them. The appearances now described are often confounded with mere congestions of the lung, the result of a mechanical gravitation of the blood from position during a period of impaired vital energy, and altogether unconnected with real inflammation. The question is important, and sometimes difficult of solution. Gendrin tells us that if a small stream of water be let fall continuously upon the part for some time, all the appearances now described, including the colour, may be made to disappear if they depend upon congestion solely, and the lung will resume the ordinary characters of health; whereas if they depend upon inflammation, the colour cannot be entirely removed, especially from the central portions, though the other alterations in density, permeability to air, and sensible properties may.

A nice point connected with the minute pathology of the disease is to determine the exact seat of the inflammation. The common opinion entertained by the profession has been that it is the parenchyma of the lungs that is essentially involved in pneumonia: and that the difference in the primary seat of the inflammation constitutes the real difference between it and bronchitis. A few modern writers, on the other hand, have maintained that instead of its being a distinct disease, it is really nothing more than a bronchitis affecting the terminal tubes and air-cells. The mucous membrane, in these last, they say, from its extreme delicacy, resembles the ordinary class of serous membranes, and resulting inflammation consequently assumes the character that naturally belongs to such membranes in preference to that which is peculiarly its own.

M. Gendrin, with his usual ability, has endeavoured to determine this point by direct experiment, and the result of his investigations is to confirm the common opinion, that these diseases are really distinct. He injected coloured fluids into the pulmonary artery, and invariably found them to pass readily into the minutest ramifications when pneumonia was not present, but never could succeed in making them enter the vascular network of the cells when it was. You are all probably aware that the lungs are furnished with a double set of vessels. The bronchial, derived from the thoracic aorta, and designed for the nutrition of the organ; and the pulmonary, from the pulmonary artery, which subserve the proper

function of respiration. Now, it is not an irrational idea to suppose that in bronchitis the former set of vessels is principally concerned; and in pneumonia, the latter: and hence the difference between these two affections. Assuming this opinion to be correct, it explains a point of practical experience which has been long known as to the relative value of different kinds of bleeding in the two diseases. In bronchitis, local bleeding, by leeches or the cupping-glass near the root of the lungs, has been found more efficient than the lancet; while in pneumonia it is just the reverse. Of course, I speak merely of the *general* result, without regarding those special circumstances which always modify our statements. Now, if the theory which I have advanced be correct, the local abstraction of blood will relieve the gorged and inflamed bronchial vessels in their neighbourhood more directly than a general bleeding could do, while the lancet, from its effects upon the system at large, must be more suitable to those cases in which the branches of the pulmonary artery happen to be engaged.

In the second stage, the lung is found dilated to its utmost extent; its specific gravity is increased so as to sink completely in water, while it is more solid to the touch, and destitute of the crepitating feel that even in the first is still perceptible. It is of a lightish brown red colour, and somewhat softened, so as to break easily under the pressure of the fingers. If an incision be made into it, the cut surface presents a number of flat granulations, which vary in size, according to the age of the patient, being smaller in the very young than in the old; and still larger in persons who have suffered from emphysema. These are the obliterated air-cells. Of the original structure of the lung, nothing but the larger bronchial tubes is observable: the gorged capillaries having effused their contents, decoloured globulin, serum and fibrin, into all the interspaces: while the decomposed blood within the cells is converted into a coagulated mass of very slender consistency. The time which may elapse before this stage is fully formed varies in different cases, but as a general rule, the younger the subject, and the more vigorous the state of health, the shorter the interval. Two or three days under ordinary circumstances are generally sufficient for the purpose.

In the third stage the density, volume, and want of crepitation under pressure continue as they were in the second, while the softening is more advanced. Disorganization of the lung, however, does not take place, as careful washing prolonged for a sufficient time, is capable of restoring the cellular texture to its original state. The colour becomes of a dirty gray or a lightish yellow. A section exhibits the same granular appearance as the second stage, while a yellowish fluid exudes spontaneously from the surface, or is easily forced out by gentle pressure. Mere exposure to the air will liquefy the coagulated mass that fills the parenchyma of the lung. The time necessary for the production of this stage is even more uncertain than that for the second; occasionally five or six days are sufficient, while at other times weeks may elapse before it occurs. The important point as to the pathology of the disease for you to bear in mind is, that the lymph and fibrine are effused in a fluid state, constituting the first stage; that they coagulate subsequently to form the second; and that they again liquefy to form the third.

Now, in regular pneumonia, each of these stages follows in their exact order: the disease begins below, and gradually travels upwards; it occupies the whole of one lobe before it extends to another, however close the connexion may be. In very young children an exception occasionally occurs, because the membranous septa which divide the pulmonary lobules are relatively denser than in the adult, and hence a separation is more easily effected. From this circumstance disease in them often assumes the lobular variety. The lungs, in fact, appear to present in infants some analogy to the kidney, which you know has a lobulated structure at first, that disappears as the child grows up.

There are several other circumstances connected with this subject into which I do not now enter, as I wish to pass on to the contrast between the regular and irregular varieties of the disease. Each of the three stages has its appropriate physical signs, on which I do not intend to dwell. These are, in the first, diminished amount of respiration; fine crepitating râle: slight dullness on percussion; diminished reverberation of voice to the applied hand; increased vocal resonance:

in the second, bronchial respiration and bronchophony: in the third, large mucocrepitus, or crepitus redux, augmented respiration, and diminished dullness. Now, if the physical alterations in the lung which are the cause of these phenomena, commence below, and gradually proceed upwards till they involve the whole lung, it is obvious that the physical signs themselves must follow a similar course: hence we have three well-marked characteristics of the regular form of the disease. First, symptoms referable to the respiratory organs distinct and well marked; second, regular progression of the stages; and third, the physical phenomena beginning below, and gradually ascending upwards.

The two principal varieties of irregular pneumonia are the typhoid and the latent. Of the former we have happily had no example during the present session, but it differs essentially from that which I have been describing. The best account of it you will find in Dr. Stokes's elaborate work upon Diseases of the Chest. You are not to suppose that the mere occurrence of typhoid symptoms is sufficient to constitute the affection, for you will often observe pneumonia developed in the course of typhus fever, but presenting in every respect, except the occurrence of adynamia, the regular character. Its essential features are the rapidity of its course, the badly-marked gradation of stages, the almost total suppression of initiatory crepitus. The manner in which the whole lung seems to become solid at once, the early period at which suppuration occurs, and (contrary to what, under such circumstances, might be expected) the slowness with which resolution is accomplished, while the large loose crepitus that usually accompanies that change is seldom perceptible. This variety is extremely fatal, but its rarity corresponds to its severity. A few weeks after the work-house was opened I met with a case which terminated fatally about the third day after admission, and on inspection the whole lung formed one mass of suppuration, uniform in extent in all the lobes, and not, as in the ordinary form, more advanced in the lower than in the upper.

Another point of difference consists in the typhoid form being almost always limited to a single lobe, whereas regular pneumonia seldom attacks the whole of one lung, without at the same time involving the other more or less. If to these remarkable features you add the striking fact that the prominent symptoms of pulmonary disease are often absent or obscure, you have a collection of distinctive marks, sufficient to justify the most fastidious in considering it a separate species. I do not at present speak of the treatment suitable to typhoid pneumonia farther than to say that it must differ essentially from that in use in the ordinary form. All antiphlogistic measures, except mercury, and that administered in the mildest but most effectual manner possible, must be laid aside, and the patient's strength supported by tonics, nutritious diet, and wine, according as circumstances will admit.

The latent form, like the typhoid, differs from the regular in not observing the usual law of progression in the stages from below upwards. Sometimes you will find a very small portion of the chest in the second stage, and that not at the base of the lung, but it may be in the middle lobe, and the closest examination elsewhere will fail to detect in the surrounding parts the slightest crepitus, as indicative of the first stage. The principal feature, however, is the complete suppression of the usual symptoms of pulmonary disease: there will be no cough, no local pain, no difficulty of breathing, no expectoration. A physical examination alone reveals the existence of anything wrong with the respiratory organs. In typhoid pneumonia, it is true, you may have the same thing, but it is not invariable, and even when it does exist, it is scarcely matter of surprise. The state of stupor in which the patient is sunk, as well as the complete prostration of all the vital powers, so deaden his susceptibility to impressions both internal and external, that we can readily expect these symptoms should be very obscure, if they exist at all. The case is different under the circumstances we are now considering. In them no reason exists why these ordinary symptoms should not be manifest. Latent pneumonia is apt to occur under two very different conditions according as fever is present at the time or not. In the former, as in children suffering from the exanthemata, the pyrexia that is present, as well as the slight hurry of the breathing, are apt to be set down to the prominent disease, and so the deeper-seated but latent one may escape unnoticed. The same thing frequently occurs

in delirium tremens; the attention of the physician is extremely liable to be directed exclusively to the state of the nervous system, yet it frequently happens that the inflammatory action, commencing in the mucous membrane of the stomach, creeps insidiously upward till a considerable portion of the right lung becomes solidified. What increases the difficulty in this case, is, that the patient is generally incapable of expressing his feelings so as to point attention to this dangerous complication.

But there is one class of cases to which I wish particularly to direct your thoughts, because I do not think it is sufficiently well known, although I can testify, from an extensive observation, that it is common enough; and that is, the frequent occurrence of latent pneumonia in connexion with acute hydrocephalus, and the convulsive affections of children. In this, as in the last instance, the *manifest* appearances are so alarming as to divert all attention from other topics, while in reality the former are essentially caused by the obstruction to the free circulation in the chest. On a multitude of occasions have I noticed this complication in the workhouse, when the two diseases were unfortunately extremely common. But I cannot forbear mentioning the following example, which occurred in the north of Ireland: Happening to be staying for a few days at a friend's house, I was asked to see a little child about a year and a half old, who was said to be ill of water on the brain. The father had lost several other children by this complaint, and was naturally very uneasy at the thought of losing this. On arriving at the place I found all the ordinary symptoms of hydrocephalus well marked, but at the same time discovered it to be labouring under extensive pneumonia of both lungs; treatment directed to this had the happy effect of completely removing all the unpleasant symptoms under which it laboured.

But the same thing may exist when there is no fever present, or as little as in our patient Johnson, where the pulse was 76, the breathing 16, and the skin cool. I have met with an instance in a very little girl about four years old, who was observed, a few days after a slight feverish attack, to have a trifling cough. She was to all appearance perfectly well, free from fever, and in the best possible spirits. On examining her chest, there was one small spot, about as large, perhaps, as a hen-egg, where percussion gave a dull sound, and respiration was nearly inaudible. No crepitus could be detected. By appropriate treatment resolution took place, and she recovered perfectly. Several other cases came under my observation in the workhouse; among the rest a healthy woman by the name of Lacey, about 30 or 35 years of age, a deputy in one of the hospital wards, complained of a pain in the left side. She had no fever, no quickness of breathing, no cough, or expectoration. On examining her chest, I detected dullness over a considerable portion of the anterior part of the lower lobe, which was somewhat tender to the touch. Respiration in the part weak and bronchial; vocal resonance increased. Appropriate treatment here, too, completely removed the disease.

The occurrence of inflammation in this low form unattended by fever, hurry of the breathing, &c., altogether contradicts the opinion commonly entertained in the medical world, and imposes upon us the greater necessity for physical examination in all doubtful cases. In percussion and the stethoscope, in our hands and ears, we have means of procuring information that eludes the grasp of our other senses, and it ought to be a disgrace to any member of the profession, in these enlightened days, to allow a single case of this kind to pass undetected. But the bare fact that pulmonary inflammation may assume a low unhealthy form is only analogous to what we know occurs elsewhere. Hasse, in his *Pathological Anatomy*, makes an observation that the case of Johnson seems to bear out; that is, that in persons habituated to the use of alcoholic stimulants, the respiration is habitually slower than in other persons, and that in delirium tremens especially this diminution in the frequency of inspiration is most remarkable. In this hospital, where cases of delirium tremens occur so often, you cannot want for opportunities of testing the correctness of this opinion.

In all cases of latent pneumonia I am in the habit of resorting to mercury in doses proportional to the urgency of the symptoms. Tartar emetic appears to me, much as it is lauded in ordinary pneumonia, to be unsuitable, both because the remedy is too heroic for the low kind of inflammation we have to deal with, and also because the first stage—that to which tartar emetic is peculiarly adapted

—in these cases has passed away before we have an opportunity of recognizing the disease. This, together with local depletion repeated from day to day, as the strength admits, are perhaps the most important means we possess of combating this obscure and insidious affection.

ART. 12.—*Emphysema of the Cellular Tissue following Hooping-cough.*

By U. HERAPATH, M.B., Bristol.

(*Medical Times*, Sept. 2, 1848.)

A child, at eighteen months, was placed under the author's care for hooping-cough. She was ordered four leeches in the sternum, and small doses of tartarized antimony at short intervals.

The bronchitis was controlled in the course of four or five days by persistence in this treatment; the febrile symptoms diminished, and the whoop became more fully formed. The antimony was continued, but at longer intervals, during the whole of the subsequent week, in consequence of which the cough became less teasing and troublesome; and by the 15th the whoop had almost entirely ceased, but the spasmodic cough remained. At this time all fever had vanished; the child had lost its appetite, and its strength had considerably diminished; the pulse was small, weak, and rapid; the respirations were very short and frequent; more dyspnœa existed than the symptoms warranted; but little mucous r le remained; the face was pale and exsanguine; the lips almost white.

I prescribed one grain of the citrate of iron and quinine three times a day, with a little syrup of lemons.

No improvement resulted; the dyspnœa steadily increased; the auxiliary muscles of respiration were brought into play, but the countenance did not become livid until after a fit of coughing; the chest sounded everywhere well on percussion. I at first attributed this dyspnœa to excitement, until the friends assured me she was always so. The cough was almost nothing at this period; it was readily "smothered" by the child.

On the 17th of August, after a more than usually violent fit of coughing, a swelling made its appearance in the neck just over the sternum: the depression between the origins of the sterno-cleido-mastoids disappeared, and was converted into an enormous goitre in shape and appearance; but the boundaries were more diffused and extensive than this disease usually assumes. I saw it some hours after its origin. It then appeared very prominent and diffuse; the inferior extremity stretched downwards over the first and second bones of the sternum, and terminated in an acute point; from hence the two external margins took a curvilinear direction upwards and outwards to the middle of the clavicle on each side, so that the tumour had a triangular appendage to it inferiorly; this appendix was elevated above three-eighths of an inch above the surface of the surrounding skin.

Above the sterno-clavicular articulation it was a rounded prominent tumour, extending even up to the larynx, and outwards to the margins of the sterno-mastoids on each side; it had a very transparent appearance; "it looked watery," as the relatives expressed it, but the decided crepitant feeling experienced on handling it at once declared it to be air in the cellular tissue; in fact, emphysema! Whence came this I was at a loss to conjecture. It was probable that one of the muciparous follicles of the trachea had ulcerated through all the coats of this tube, and permitted an escape of air under the fascia. The dyspnœa rapidly increased, as also did the swelling: it at length extended to the ramus of the lower jaw; the face became livid, and the extremities cold; the child gradually passed into asphyxia, and died quietly on the 19th of August, at ten A. M.

A carefully-conducted post-mortem was made on the 21st. Decomposition had not commenced.

The dissection of the neck clearly showed the air to be in the cellular tissue, beneath the deep cervical fascia, and around the trachea. The whole of the cellular tissue here was emphysematous, and it passed downwards behind the sternum into the anterior mediastinum, the cellular tissue in which was excessively distended by air. The lungs were also broken up by emphysematous dilatations; the upper lobe on the right side was most extensively disorganized by it; many of its cells were as large as currants and grapes, and all of them were larger than

natural. Air was proved to pass from the root of the upper lobe of the right lung into the anterior mediastinum, behind the pleura; therefore, one of the distended emphysematous lobules at the root of this lobe must have given way, and allowed the air to escape into the cellular tissue in the manner described. The other organs of the thorax and abdomen presented no appearance worthy of remark; they were all anemic. No air existed in either of the pleuritic cavities.

This case is an interesting one—the rarity of its occurrence makes it especially worthy of note. Upon reference to Dr. Copland's 'Medical Dictionary,' I find that emphysema of the cellular tissue of the neck has already been noticed to occur, by two reporters, after whooping-cough. Not possessing the original communications, I am unable to say whether both these cases were fatal; but from the urgent dyspnoea in this particular instance, and the irremediable nature of the injury, I must presume that it is almost impossible to be otherwise than a very fatal accident. The peculiar shape of the tumour is at once indicative of the affection; I should now have no difficulty in recognising it again in a moment. It is evident to every anatomist that this peculiar shape is owing to the attachments of the cervical fascia to the various salient points about the neck, which, of course, did not permit the air to insinuate itself under the fascia in these positions. I greatly regret that auscultation was not practised upon this little patient's thorax to elucidate the cause of the dyspnoea on the 15th. Had I done so, the condition of the lung would have been detected, and the cause at once revealed. It would have been impossible, however, to have foreseen this accident; in fact, I should never have expected it, as, until the present case happened to me, I was perfectly ignorant of its existence.

ART. 13.—*Case of True Pneumonic Abscess.*

By Dr. JAMES F. DUNCAN.

(*Dublin Medical Press*, July 26, 1848.)

[The rarity of true pneumonic abscess may be inferred from the fact that Laennec has met with but five or six examples, Andral with only four, Romkaud, Gendrin, and others with but one or two. As an instance, therefore, of an unfrequent pathological condition, the following case is worthy of record, independently of the judicious remarks by which the clinical history is accompanied.]

A labouring man, æt. 42, was admitted into the Wicklow County Hospital in January, 1848, complaining of total inability to swallow, with urgent dyspnoea. He had got wet at a fire in the previous August, after which dysphagia came on gradually.

Under the idea that he had aneurism, Dr. Duncan submitted him to a careful auscultation, which determined him upon refuting the opinion. Dr. Duncan thus proceeds:]

Having dismissed the idea of an aneurism from my mind, it became necessary to prosecute the examination of the case further, with a view of ascertaining the true nature of the complaint under which he was labouring. The first symptom that arrested my attention was the extreme fætor of his breath: it was so offensive that it was almost impossible to stand near him, even for the purpose of making an examination: it had, in fact, quite a gangrenous character. Like many other patients similarly circumstanced, he was not conscious of it himself, but he admitted that it had been noticed by others. It was not, however, constant, but seemed to be connected with his expectoration rather than with his breath. It was only when he coughed up some of the matter that this intense fætor could be observed. This is a point deserving attention, as assisting to distinguish gangrene of the lung from pneumonic abscess. Many persons confound these two affections; but they are really distinct, and the diagnosis is of great importance. Gangrene is much more common than abscess, but the latter is more amenable to treatment. When a patient is attacked with gangrene, his breath has the characteristic odour which never leaves him but with life; but in pneumonic abscess, though the breath is occasionally fetid, yet as this depends upon the expectoration, it is only when he has just spit up, that the symptom is perceptible.

The other symptoms of his case were these: complete dullness of the lower half of the right lung, which was found on measurement at the level of the mamma

to be half an inch larger than the left; the dullness became greater the nearer the base of the lung that percussion was practised; there was marked bronchophony, almost amounting to *œgophony*, in the posterior portion of the dull part of this lung, while in the anterior, respiration was entirely suppressed. In a circumscribed spot, about three inches below the right axilla, and on a level with the right nipple, cavernous respiration, with gurgling and metallic tinkling, was detected; the cavernous respiration was extremely well marked; the other phenomena, though sufficiently distinct, were less intense; a little above this situation, *pectoriloquy* in a most perfect form existed. The intercostal spaces were everywhere manifest; the voice reverberated naturally except in the dull portion; his body was greatly emaciated; his pulse 116, and very weak; he had no diarrhœa nor night sweats, and his cough, which was trilling, was not troublesome except at night.

The physical signs just enumerated naturally pointed to the existence of pleuropneumonia of the base of the right lung with an abscess deeply seated in the middle lobe on a level with the nipple, and about three inches below the axilla. This diagnosis thus made, and which was verified at the autopsy, was written down the next day on the patient's card—a circumstance particularly fortunate, as these happy hits are so often made or mended after the revelations of the dissecting-table.

But, to return. These signs, so obvious on the first day, became less distinct subsequently, insomuch that a superficial observer listening for the first time would have some doubt as to the reality of their existence. Now, as we know that their production depends upon organic alterations in the lungs, which cannot be removed in any very short space of time, it is plain that when their existence has been once satisfactorily ascertained, we ought naturally to look for their continuing with equal distinctness afterwards. How, then, are we to explain deviation in the present instance? You must have noticed that the abscess, as revealed by dissection, was almost entirely filled by that offensive matter of which I have already spoken; and that it was of a peculiarly tenacious character, so that it did not possess the fluidity of ordinary pus. The consequence of this was, that it could easily choke up the air-tubes leading to the interior, and thus prevent the development of those sounds—*pectoriloquy*, gurgling, and cavernous respiration—by which the existence of the abscess was diagnosed at the first; and that this was the true explanation of the difficulty was proved by the mere effort of coughing at any time restoring these signs to their original distinctness.

[Having arrived at the conclusion that an abscess existed, the further question arose as to its nature, whether simple or tubercular. This question Dr. Duncan next discusses:]

Let us now suppose that, from a careful examination of the physical condition of the chest, we have arrived at the conclusion that an abscess existed at the spot already indicated, how are we warranted in pronouncing that abscess to be pneumonic and not tubercular? I need not tell you that tubercular cavities are as common as the others are rare, and that the *prima facie* probability is strongly in favour of the phthisical nature of the disease. The situation, indeed, supposing it to be correctly indicated, is not that of an ordinary vomica; but irregularities in this respect are frequent enough to make us pause before resting implicitly upon that point alone.

Let us look a little more closely at the general symptoms to ascertain what light they are likely to throw upon this question, for as the case stands, the physical signs *per se* are incapable of determining it.

Several of these,—the emaciation, the rapid weak pulse, the duration of the complaint, and the chronic affection of the larynx, all countenanced the idea of its being really tubercular; while, on the other hand, several circumstances connected with the case evidently militated against it. If the disease were really phthisis, it was reasonable to infer, from the period that had elapsed from its supposed commencement, as well as from the fact of the existence of a cavity, that it must have been in the third or advanced stage of the complaint, whereas he had neither the perspirations nor the diarrhœa that are the usual accompaniments of that stage. So far the reverse, his skin was hard, and dry, and scaly, indicating a suppression of the natural secretion of the part, and his bowels did not act with-

out the assistance of medicine. I do not lay much stress upon the reputed cause of the man's illness, because it is always difficult to obtain really correct information upon matters of this kind; yet assuming his statement to be well founded, it was a circumstance much more likely to produce an inflammatory affection of the chest than to develop tubercles in a man previously healthy, resident in the country, and arrived at the forty-second year of his age.

I have already mentioned the extreme dyspnœa under which he was suffering, indicated by the rapidity of his respiration, but I have not mentioned that this was attended with marked lividity of the lips, a point deserving consideration from the rarity of its occurrence in consumption. Lividity of the lips, as it commonly appears in chronic bronchitis and emphysema, is the result of the want of the natural proportion between the quantity of blood circulating in the vessels, and the capacity for aerating it possessed by the lungs. Disturbance of the proper relation between these two never arises from mere hyperæmia, because, however great the quantity of blood, the lungs in the healthy state are adequate to arterialize the whole sufficiently. The case, however, is different when the natural structure of the lungs is altered, because then their efficiency as a depurator of the blood is destroyed, and the carbonic element accumulates in the system. Still it is a remarkable fact that in consumption, notwithstanding the progressive disorganization that takes place in the lungs, often leaving a very small portion indeed in a state to fulfil its function, neither lividity of the lips, nor extreme rapidity of respiration, are by any means common symptoms; the reason of which is this, that a diminution in the quantity of the blood takes place at the same time with the destructive process in the chest, and thus the essential ratio of the one to the other continues to be preserved. Regarded in this light, the exhausting perspirations and the protracted diarrhœa are a sort of safety-valve to relieve the system of its superfluous fluids, and to make the descent down the hill of life less distressing to the patient.

Fœtor of the breath is occasionally met with in consumption, though it must be admitted to be comparatively rare. I believe that, when it does occur, it is due to sloughing of the walls and cellular membrane of the vomicæ, which become detached, and putrefy. The extreme degree, however, in which it existed in Doran's case, was altogether incompatible with such a supposition; and in point of fact it was this symptom that first led me to suspect the nature of the malady, and to search for its proper seat.

But probably the most important argument of all was to be found in the enlargement of the lower part of the right lung, coupled with the consideration that the solidification was confined to that part. Tuberculization, except, perhaps, in some rare cases of acute phthisis, never leads to an augmentation in the volume of the organ. The chronic nature of the complaint in the present instance excludes these few exceptional cases, and hence we were justified in referring that we had not solidification from tubercles to deal with. It is true that anteriorly we had reason to believe fluid existed at the base of the lung, which might account for the enlargement, but even this will not get rid of the difficulty, in consequence of the complete absence of tubercles in the upper lobe. Pleuritic attacks in phthisis (with the solitary exception of that depending upon rupture) are invariably lymph or dry, the reason of which is obvious; they are designed in the economy of nature to act a conservative part, and to guard against internal laceration. Effusion, however, does occur occasionally, but always as the consequence of a sudden giving away of the pleura in some part where this adhesive process has not taken place; the contents of the vomica escape into the thorax, the side is enlarged, the lung compressed, and a fistulous opening, with its characteristic signs, is established. In that case the tubercles occupy the upper portion of the chest, while the lower remains free. Were the lower lobes solidified, the effusion would be restrained; but what is more important, the mechanical condition of the lung would be such as to prevent the injury occurring. The very supposition, then, of the lower part of the lung being solidified precludes the possibility of such an occurrence.

[The differential diagnosis as respects gangrene of the lung is disposed of in the following words:]

The diagnosis from gangrene remains to be discussed. I have already said that, rare as gangrene of the lungs is, it is still more frequently met with than true pulmonary abscess. It occurs sometimes in connexion with pneumonia, but on other

occasions it appears to result from a septic condition of the fluids, the consequence of want and misery, as in the very poor; of neglect, or more probably of depraved habits, as in epileptics and lunatics; of extreme intemperance; and of the introduction of certain poisons into the system, either by inhalation, as in nightmen, or by the bite of insects, as in a case recorded by Carswell. Under all circumstances, it is an acute disease. If you look into Simon's 'Pathological Anatomy,' you will find that he mentions there are but two or three instances known of its occurring in chronic inflammation of the lungs. When it succeeds to acute pneumonia, it appears to result from the intensity of the inflammation occurring in an unhealthy state of the constitution. In this respect our case differed widely from the common features of gangrene. But, further, its occurrence is always attended by a marked collapse of the vital forces, indicated by exhaustion of strength, feebleness, and irregularity of the pulse, change of the features, coldness of the extremities, and tendency to faint. In the present case we had none of these symptoms. He was able to walk about without assistance; his pulse, though frequent and small, was regular; his countenance had a natural appearance, and, so far as he was able to swallow, his appetite was good.

I need not tell you that the prognosis in this case was from the first of the very gravest character. A man breathing from forty to forty-four times in the minute, with a pulse varying from 116 to 120, and extremely small, who had been six months ill, and who was scarcely able to swallow anything, was not likely to be materially benefitted by anything we could do for his relief. All that could be done was to support his strength by wine, porter, strong animal broths, and whatever other nourishment he could take. External friction, with mercurial ointment, seemed the only remedy certainly at our disposal: this was accordingly resorted to; but the attempt to administer hydriodate of potash dissolved in decoction of bark was made, and succeeded better than I anticipated. For two days he appeared to hold his ground, and even to improve slightly: he was able to swallow better; his respiration became less frequent by three or four inspirations in the minute, and his aspect improved. On the third day, however, an evident change for the worse had taken place; the pulse rose to 132, and became much weaker while the power of deglutition failed. The next day he was dead. The dissection revealed a single cavity, capable of holding two or three large walnuts, in the middle lobe of the right lung, deeply seated, and partially filled with matter, having an odour exactly resembling gangrene, or the most abominable fæces. Anteriorly, the side of the lung next the mediastinum was compressed and separated from the ribs by a quantity of citron-coloured serum (about a pint and a half), and posteriorly the two lower lobes were of a grayish-white colour, hard to the feel, and perfectly solid. Semi-organized lymph, evidently of recent formation, occupied the lateral and posterior surface of the pleura, while the anterior was free from it. It is hardly necessary for me to say that these appearances exactly coincided with the physical signs during life.

SECT. IV.—DISEASES OF THE CHYLOPOIETIC SYSTEM.

ART. 14.—*On Ulcerative and Gangrenous Stomatitis.* By Dr. WEST.

(*Medical Gazette*, June 2d.)

[We continue to extract from the valuable Lectures on the Diseases of Childhood, referred to in former volumes.]

Dr. West remarks that *ulcerative stomatitis* attacks the gums and sometimes destroys them extensively: the process is, however, one of ulceration, not of mortification, which distinguishes the disease from *cancrum oris* or *gangrenous stomatitis*.

Ulcerative stomatitis, or *nomu*, attacks children who are not robust, and such as have been ill-fed and lived in damp, ill-ventilated situations. The ulceration sometimes makes considerable progress before its existence is suspected, and the attention is only excited by the profuse flow of saliva and fetid smell of the breath. On opening the mouth, the gums are seen to be red, spongy, and swollen, and their edge is covered by a dirty pulsatious deposit, on removing which their sur-

face is exposed, raw and bleeding. The gums of the incisor teeth are usually first affected, those of the lower jaw more frequently than the upper. Sometimes aphthous ulcers, like those of follicular stomatitis, are seen to coexist; but this is the exception. On those parts of the lips which are in contact with the ulcerated gums irregular ulcerations form, which have a similar appearance; sometimes deposits of false membrane take place on other parts of the inside of the mouth, the surface beneath being red and spongy, and bleeding, though not distinctly ulcerated. If the disease be severe and long-continued, the tongue assumes a sodden appearance, and is indented by the teeth, and the cheek, on one or other side is somewhat swollen, while the saliva, though rather less abundantly secreted than at the commencement of the affection, continues horribly fetid, and is often streaked with blood, the gums themselves bleeding on the slightest touch. But even if left alone, the affection usually subsides in the course of time, though it may continue almost stationary for days or weeks together, and this notwithstanding that the general health is tolerably good. Dr. West thinks that it would be too much to say that this unhealthy ulceration never degenerates into gangrene; but though a very large number of cases of ulcerative stomatitis have come under his notice, he has seen only one instance in which it was succeeded by true gangrene of the mouth. When recovery has commenced, the disease ceases to spread; the drivelling of fetid saliva diminishes; the white pultaceous deposit on the gums, or on the ulcerations of the cheek or lips, becomes less abundant; the ulcers themselves grow less; and, finally, the gums become firm, and their edges of a bright red, though still for a long time showing a disposition to become once more the seat of the ulcerative process, and continuing for a still longer time to cover the teeth but very imperfectly.

Various internal remedies and local applications have been at different times recommended for the cure of this affection. Tonics have been much employed, and the supposed analogy between this state of the gums and that which exists in scurvy has led practitioners to give the preference to remedies supposed to be possessed of anti-scorbutic properties. Lotions of alum, or the burnt alum in substance, or the chloride of lime in powder, have all been used locally with more or less benefit. It was Dr. West's custom, also, to prescribe these remedies in cases of ulcerative stomatitis; but since the chlorate of potash was introduced to the notice of the profession by Dr. Hunt, he relies upon it almost exclusively. It appears, indeed, in his opinion, almost to deserve the name of a specific in this affection; for a marked improvement seldom fails to be observed in the patient's condition after it has been administered for two or three days, and in a week or ten days the cure is generally complete. Three grains every four hours, dissolved in water and sweetened, is a sufficient dose for a child three years old, and five grains every four hours is the largest quantity that he has administered to a child of eight or nine. If the bowels be constipated, a purgative should be previously administered; but there seems to be no form nor any stage of the affection in which the chlorate of potash is not useful. The diet should be light, but nutritious, and quinine or other tonics are sometimes serviceable if the child's health should continue feeble after the local malady has been cured.

Ulcerative stomatitis is an affection of such frequent occurrence, that many instances of it come under Dr. West's notice every year, especially during the damp autumnal months; while it is attended with so little danger, that the only case in which he has known it prove fatal was one in which gangrene of the mouth supervened upon it. *Gangrenous stomatitis*, on the other hand, is a disease so rare, that he has only five times had the opportunity of witnessing it; but so fatal, that in four out of these five cases the patients died. The larger experience of other observers shows an equally unfavourable result, since twenty out of twenty-one cases that came under the notice of MM. Rilliet and Barthez had a fatal termination. The formidable nature of the disease requires that we study it more closely than, considering the rarity of its occurrence, would otherwise be necessary; and it is the more important to do so, in order that we may avoid the not very uncommon error which confounds this dangerous affection with that comparatively trifling ailment, ulcerative stomatitis.

Gangrene of the mouth seldom comes on, except in children whose health has been already much impaired by previous disease, and especially by those diseases

which are connected with important changes in the circulating fluid. Of 29 cases which MM. Rilliet and Barthez either observed themselves, or of which they found mention in the writings of other physicians, only one appeared to be an instance of idiopathic gangrene of the mouth, while in 12 cases the disease followed an attack of measles. Of the 5 cases which Dr. West has observed, and 3 of which he examined after death, 2 succeeded to typhoid fever, 2 to measles, and one supervened in a tuberculous child who had been affected for many weeks with ulcerative stomatitis in a severe form. Though not confined to any one period of childhood, gangrene of the mouth is more frequent between the ages of 2 and 5 than either earlier or later. Of the 29 cases mentioned by MM. Rilliet and Barthez, 19 occurred between 2 and 5; 10 between 6 and 12. Of the 5 cases that came under Dr. West's own observation, 1 was in a child aged $2\frac{1}{2}$ years, 1 in a child aged 3, 1 between 4 and 5, 1 at $6\frac{1}{2}$, and one at 8 years of age.

Although all the tissues of the cheek become involved in the course of this affection, yet difference of opinion has existed with reference to the part in which it commences; some observers conceiving that it generally begins in the substance of the cheek, while others regard the mucous membrane as being the part which is invariably the first attacked. So far as his own observations enables Dr. West to judge, he is disposed to regard this latter view, which is that of MM. Rilliet and Barthez, and of M. Baron, as correct.

The early stages of the affection are attended by scarcely any suffering, owing to which, as well as to the circumstance that the children in whom it supervenes are almost always labouring under some other disease, or in the course of convalescence from it, it is probably due that the malady is often not discovered until after it has made considerable progress. There may for a day or two have been an unusual fetor of the breath, and a profuse secretion of offensive saliva, but the appearance of swelling of the cheek is frequently the first symptom that leads to a careful examination of the state of the mouth. The characters of the swelling of the cheek are almost pathognomonic of the gangrene of the mouth. It is not a mere puffiness of the integument, unaccompanied with any change of its colour, such as is sometimes observed in ulcerative stomatitis, but the cheek is tense, and red, and shining; it looks as if its surface had been besmeared with oil, and in the centre of the swollen part there is generally a spot of a brighter red than that around. The cheek feels hard, and is often so unyielding that the mouth cannot be opened wide enough to get a good view of its interior. The disease is almost always limited to one side, and generally to one cheek. Sometimes, however, it extends to the lower lip, and occasionally it begins in that situation. The upper lip is now and then reached by the progress of the disease, but is never its primary seat. Whatever be the situation of the external swelling, there will generally be found within the mouth, at a point corresponding to the bright red central spot, a deep excavated ulcer, with irregular jagged edges, and a surface covered by a dark brown shreddy slough. The gums opposite to the ulcer are of a dark colour, covered with the putrilage from its surface, and in part destroyed, leaving the teeth loose and the alveolæ denuded. Sometimes, especially if the disease be further advanced, no single spot of ulceration is recognisable, but the whole inside of the cheek is occupied by a dirty putrilage, in the midst of which there are large shreds of dead mucous membrane hanging down. As the disease extends within the cheek a similar process of destruction goes on upon the gum, and the loosened teeth drop out one by one. The saliva continues to be secreted properly, but shows, by the changes which take place in its characters, the progress of the disease. At first, though remarkable for its fetor, it was otherwise unaltered, but now it is no longer a transparent fluid, but receives from the putrefying tissues over which it passes, a dirty, greenish, or brownish colour, and at the same time acquires a still more repulsive odour.

While the gangrene is thus going on inside the mouth, changes no less remarkable are taking place on the exterior of the face. The redness and swelling of the cheek extend, and the deep red central spot grows larger. A black point appears in its midst; at first it is but a speck, but it increases rapidly, still retaining a circular form; it attains the bigness of a sixpence, a shilling, a half-crown, or even a larger size. A ring of intense redness now encircles it, the gangrene ceases to extend, and the slough begins to separate. Death often takes place

before the detachment of the eschar is complete, and it is fortunate when it does so, for sloughing usually commences in the parts left behind. The interior of the mouth is now exposed, its mucous membrane and the substance of the cheek hang down in shreds from amidst a blackening mass, and form one of the most loathsome spectacles that can be conceived; while the horrible stench which the mortified parts spread around, makes the task of watching the poor child as repulsive as it is distressing.

Happily it is not often that the acute suffering of the child occurs to heighten the distress of the sad scene. Usually it has but little pain from the very first, but is generally more drowsy than before, though sometimes the nights are restless; and in those cases in which gangrene of the mouth supervened in the course of typhoid fever, the delirium which existed before, continued unmodified. The pulse grows feebler as the disease advances, but gleams of cheerfulness may sometimes be perceived, even long after the appearance of the black eschar on the cheek has shown the case to be all but hopeless, and the desire for food often continues unabated till within a few hours of the child's death, which generally takes place quietly, though sometimes it is preceded by convulsions.

Since gangrene of the mouth occurs in the course of a great variety of diseases, the only morbid appearances characteristic of it are those which result from the local mischief. On two occasions Dr. West dissected the gangrenous parts very carefully, and the alterations which presented themselves to his notice were precisely the same as have been described by MM. Rilliet and Barthez. The absorbent glands, both superficial and deep seated, on the affected side are enlarged, and the cellular tissue of the cheek is infiltrated with serum, which is more abundant the nearer one approaches to the slough. In the substance of the eschar, the distinction of parts is no longer easy, but with care the vessels and nerves may still be traced; and the reason why fatal hemorrhage so seldom cuts short the life of patients suffering from this affection, is at once explained by the clot which plugs up the vessels for some distance on either side of the gangrenous mass. On one occasion he found the root of the tongue, the tonsils, pharynx, both surfaces of the epiglottis, and about an inch of the œsophagus, completely coated with a moderately firm, yellow, false membrane, about a line in thickness, easily detached, and leaving the subjacent mucous membrane only a little redder than natural. A few patches of a similar deposit existed in the larynx, but not continuous with that in the pharynx. In this case, great difficulty of deglutition had existed for three days before the death of the child. The association of diphtheritis with gangrene of the mouth is, however, an accidental complication, and one of not very frequent occurrence.

The arrest of the sloughing is the one point to which in the *treatment* of this affection the attention of all practitioners has been directed. The small amount of success which has attended their efforts, is partly attributable to the circumstance that the affection has frequently been overlooked, until it has already made considerable progress; in part also to the fact that when recognised, the local remedies employed in order to check the gangrene have either been too mild, or have been applied with too timorous a hand. Unfortunately, too, there is considerable difficulty in applying any caustic effectually to the interior of the mouth,—for not only does the tense and swollen condition of the cheek prevent our obtaining easy access to the gangrenous parts, but the child naturally resists an operation which cannot but occasion it most severe pain. Ineffectual cauterization, however, is useless, or worse than useless; and though every endeavour should be made to prevent the needless destruction of healthy parts, yet of the two evils, that of doing too much is unquestionably less than that of doing too little. It is of importance, moreover, not only that the cauterization should be done effectually, but also that it should be practised early. M. Baron, indeed, speaks of incising the slough in the cheek, and then applying the actual cautery to the part; but I am not aware of any instance in which this suggestion has been acted on with a good result. When once the mortification has extended through the substance of the cheek, the chances of arresting its progress must be very few. As the sloughing advances from within outwards, it is to the interior of the mouth that our remedies must be applied, and since the advance of the disease is too rapid to allow of our trying mild means at first, and afterwards resorting, if necessary, to such as are

more powerful. we must employ an agent sufficiently energetic at once to arrest its progress. Various caustics have been recommended for this purpose, but none appear to be so well fitted to accomplish it as the strong hydrochloric or nitric acid. Dr. West is accustomed to employ the latter, applying it by means of a bit of sponge, or of soft lint or tow, fastened to a quill, while he endeavours, by means of a spoon or spatula, to guard the tongue, and other healthy parts, as far as possible, from the action of the acid. In the only case that he saw recover, the arrest of the disease appeared to be entirely owing to this agent, and though the alveolar processes of the left side of the lower jaw, from the first molar tooth backwards, died, and exfoliated apparently from having been destroyed by the acid, yet it must be owned that life was cheaply saved even at that cost. Some increase of the swelling of the cheek almost invariably follows the application of this agent—a circumstance which may at first occasion unfounded apprehension lest the disease be worse. Twelve hours, however, must not be allowed to elapse, without the mouth being carefully examined, in order to ascertain whether the disease has really been checked, or whether there is any appearance of mortification in the parts beyond the yellow eschar left by the first application of the acid. The cauterization may now be repeated, if it appears necessary, and even though the disease had seemed completely checked; yet reliance must not be placed on the improvement continuing, but the mouth must be examined every twelve hours, for fear the mortification should spread unobserved. During the whole progress of the case the mouth must be syringed frequently with warm water, or with camomile tea mixed with a small quantity of the solution of chloride of lime, in order to free it from the putrid matters that collect within it, and to diminish as much as possible their offensive odour. Should the case go on well, the frequent repetition of the strong acid will be unnecessary, but the surface may still require its application in a diluted form, or it may suffice to syringe the mouth frequently with chloride of lime lotion, or to apply the chloride in powder once or twice a day, according to the suggestion of MM. Riiliet and Barthez. In the last two cases of this affection that came under the author's notice, he likewise employed the chlorate of potash internally, as recommended by Dr. Hunt, but it did not appear to exert any influence over it; and valuable though the remedy is in ulcerative stomatitis, it would, he thinks, be merely trifling with your patient's chances of recovery to trust to it in true gangrene of the mouth.

During the whole course of treatment, another indication has to be fulfilled, namely, to support the patient's strength by nutritious diet, and by the employment of wine and other stimulants, and the administration of quinine, or of the extract of tincture of bark, or whatever form of tonic might seem best suited to the peculiarities of the case.

In conclusion, during the whole progress of the case, the prognosis must be regulated by the state of the local disease, rather than by the urgency of the general symptoms. So long as the sloughing is unchecked, the affection is tending rapidly to a fatal issue, and this even though the pulse be not very feeble, though the appetite be good, and the child still retains some show of cheerfulness.

[With reference to the influence of mercury in producing the disease, Dr. West observes:]

It might seem to you to be an omission on my part if I left the subject of inflammation and gangrene of the mouth without some notice of the supposed influence of mercury in its production. There can be no doubt but that this preparation, even when given in small doses, has in a few instances produced severe pytalism, inflammation of the mouth, loss of the teeth, and necrosis, more or less extensive, of the lower jaw. In some cases, too, the inflammation has terminated in gangrene of the cheek, which has presented many of the characters that we have just been noticing: and under such circumstances inquests have sometimes been held, and blame has been attached to the medical attendant for alleged want of caution in the administration of so powerful an agent as mercury. Now although mercury should never be given without necessity, nor its administration continued without watching its effects most carefully, yet I cannot but regard the supervention of gangrene of the mouth during its use as merely an accidental coincidence, or else as the result of some peculiar idiosyncrasy of the patient, such as has been observed in the adult as well as in the child. During the past nine

years more than 15,000 children of all ages have come under my care, and I have administered mercury to any of them who seemed to require it, but have hardly ever seen salivation follow its employment before the completion of the first dentition, and have never observed that medicine, at any age, produce an affection of the mouth sufficiently serious to occasion me a moment's anxiety.

ART. 15.—*Treatment of Ptyalism by a concentrated Solution of Nitrate of Silver.*—M. Bouchacourt had a patient who became profusely salivated by accident. A borax gargle, alum gargle, sinapisms, &c., had been employed, without benefit, for six-and-thirty hours, when the idea occurred to treat the mercurial inflammation by a solution of nitrate of silver, which was accordingly applied to the base of the tongue, gums, &c., with a camel-hair brush. The caustic caused some burning pain, but after the lapse of a few minutes this subsided. The application was renewed three or four times, when the stomatitis was found to be perfectly cured.

Journ. de Méd. de Lyon.

ART. 16.—*Extraordinary Case of Biliary Concretions.* By EDWARD WILSON DUFFIN, M.R.C.S.—The patient, a man sixty-five years of age, had, on several occasions during the last three years, consulted the author for symptoms that were presumed to proceed from deep-seated subacute inflammation of the liver. He was also subject to dyspepsia. On the night of the 25th of January last, he was seized with vomiting and hiccough, which continued, with only trifling intermissions, for three days. On the third day he vomited about three pints of a fluid like coffee-grounds. Uneasiness in the abdomen, a little to the left of the umbilicus, had annoyed him occasionally for some time, and there was now tenderness in the same situation. There was no jaundice, but he gradually became much emaciated, and at length, without new symptoms, died on the 9th of March. On examination after death, two folds of intestine, to the left of the umbilicus, were found adherent to each other by recently effused lymph, and in an angular pouch-like dilatation of this portion of intestine (the jejunum) a large wedge-shaped concretion was found. The gall-bladder, in its entire length, on its under surface, was found to have been destroyed by ulceration, the edges of the remaining portion being continuous with the edges of a large perforating ulcer in the anterior walls of the duodenum. The duodenum presented two pouches, of one of which the anterior part of the gall-bladder formed the apex. Lodged in these pouches were three large biliary concretions. The length of the four concretions, all of which had bevelled surfaces, was, when they were fitted together, six inches and a half. Their weight was two ounces, five drachms, nineteen grains. The author referred to two similar cases, one related by Cruveilhier, the other by Mr. Blagden, of Petworth, in the "Medico-Chirurgical Transactions," vol. iv. In neither of these cases was the mass of concretions so large as in the present instance.

Reported in Medical Times, &c., June 3d.

ART. 17.—*On Gastrodynia and its Treatment.* By Dr. DICK.

(Lancet, June 10, 1848.)

Gastrodynia.—Under the head of Cardialgia we have remarked, that while that affection more particularly signifies pain and heat of stomach, accompanied with heartburn or pyrosis, gastrodynia and gastralgia are but synonymes of a topical, that is, of a gastric neuralgia, in which derangement of the secretions, as indicated by a furred tongue, &c., or inflammatory action, as shown by redness of tongue, by thirst, tenderness at the epigastrium, &c., are not necessarily or even usually present. On referring to my notice of cardialgia I observe that, owing probably to an omission of the printer, remarks on treatment are left out. I shall accordingly introduce a brief reference to it under the present kindred head.

It is needless to remark that, etymologically, there is a distinction between cardialgia, gastrodynia, and gastralgia; that the first means strictly *heart-pain*; the last two stomach-pain. But the fact is that all three are not rarely applied to cases of uneasiness at or near the epicardiac region, in which the stomach itself is

either not affected, or affected only secondarily and subordinately. There can be little doubt that in not a few cases of epigastric uneasiness the seat of pain is not in the stomach, but probably in the splanchnic nerve, while even yet in the thorax, or where immediately after, having passed the crura of the diaphragm, it forms the semilunar ganglion: still more frequently there is reason to believe that the solar plexus, or the left hepatic plexus, is the seat of pain supposed stomachic. On other occasions the upper part of the pancreas, or the intestinal end of the duodenum, are the probable seats.

In other cases, in which the pain is unquestionably in the stomach, and owing to the presence there of irritating secretions, it may yet happen, and happens, indeed, not rarely, that these secretions are not of stomachic origin, but regurgitations from the duodenum, liver, or pancreas—nay, it is not unlikely, or at least, impossible, from the first or upper part of the jejunum. Andral mentions cases of a father and son, with severe cardialgia, accompanied with vomiting, caused by fatal disease of the pancreas.

Such being the various possible origins of cardialgia and gastrodynia, it is evident that the treatment must be correspondingly varied. If there is heartburn, with sour eructations, we try at first a simple antacid, as ten or fifteen grains of carbonate of potash, in, if you will, two or three ounces of some aromatic water. If this is not sufficient, and an alterative alkali is indicated, the carbonate of magnesia may be tried. If the tongue is saburral, and its edges red, the breath heavy, hot, and fetid, the bowels irregular, the urine turbid and high-coloured, and the stomachic uneasiness rather dull than acute, but constant, it is presumed that the gastric mucous surface, probably also the duodenal and jejunal mucous membrane, is in the same condition as that of the tongue,—sub-inflammatorily congested. In this case, if the patient is young and plethoric, the treatment is simple. The compound infusion of senna, with the sulphates of magnesia or potash, until the tongue cleans, and the stomach-pain vanishes, are all that is necessary.

The same symptoms may, however, occur in arthritic and rheumatic subjects and persons considerably past middle life. Here a more cautious treatment is required. The neutral salts are to be avoided. Extract of rhubarb and blue pill must gently correct the secretions and promote excretion, and the infusion of senna must be combined with that of rhubarb and with tincture of cardamoms, or the compound spirit of horseradish. To the extract of rhubarb and blue pill I have often seen advantage from the addition of extract of colchicum, in such proportions of two or three grains of rhubarb plus a grain and a half of blue pill and extract of colchicum respectively.

If the cardialgia arises from the ingurgitation of bile, as evinced by extreme nausea, bitterness of taste in the mouth, and bilious retchings, we ought to commence with the induction of vomiting, and thereafter give draughts, composed of decoction or infusion of taraxacum, with sulphate of magnesia. This last measure is, however, only to be resorted to if the stools are pale and inefficient, and the hepatic region full and tender; for in this case we must presume that the hepatic veins are congested, and require to be stimulated to evacuate their contents. But if, along with bilious vomiting, there are bilious stools, the treatment, after the emetic, should consist of little else than diluents, and should be conducted on the principles elsewhere stated. If the bile be freely and spontaneously discharging itself, there is no use in exasperating the obviously already excited liver by purgatives.

If the cardialgia is flatulent, draughts or a mixture, composed of four or six drachms of the compound tincture of ammonia, and of the tincture of assafœtida, respectively, with six or eight ounces of the compound infusion of senna, will dispel the cause.

The cardialgia of pregnancy has no cure but parturition. That which is owing to interrupted menses or suppressed hæmorrhoids, long established, must be treated by leeches applied to the anus or groins, by hot pediluvia, and by sufficient but prudent purging. The cardialgia of old subjects, if plainly traceable to suppressed hæmorrhoids, must be treated promptly. Aloes must be given in the purgative, and stimulant suppositories inserted.

Perhaps the last two kinds of cardialgia ought more properly to be considered as cases of gastrodynia or gastralgia, to a brief notice of which we now proceed.

We have stated (arbitrarily it may be, yet conveniently for practice) the distinction between cardialgia on the one hand, and gastrodynia or gastralgia on the other, to consist in the former being attended with more or less inflammatory irritation of the mucous membrane and deranged secretions; the latter to consist simply of a neuralgia in which the tongue, secretions, and excretions need not be, and very frequently are not, deranged. In short, we suppose gastrodynia to be a local idiopathic neuralgia, the only symptom of which is pain, and for which there is no appreciable or very probable cause.

In such cases the treatment must depend on the temperament, sex, and age of the patient. For example, in exsanguine subjects we would give bark and iron; or iron and some aromatic powder, without sedatives or narcotics; in plethoric subjects, especially if young, we would order restricted diet and drink; Seidlitz powders largely diluted; or, if accessible, Seltzer or Vichy water. In cases neither decidedly exsanguine or the reverse, we would order sedatives or narcotics, now with, and now without, the addition of vegetable or mineral tonics. Thus one case might require the various preparations of opium, or hyoseyamus, or conium, or aconite alone, or belladonna, stramonium, cannabis indica, or hydrocyanic acid; another would require one or other of these combined, it might be, with quinine or chiretta; a third might require the narcotics or sedatives in conjunction with metallic tonics, as nitrate or oxide of silver; sulphate or carbonate of iron; sulphate or oxide of zinc; sulphate or ammonio-sulphate of copper; the trisnitrate of bismuth, or the cyanuret of gold.

When the arthritic diathesis is suspected, the cautious administration of colchicum water, blue pill, and colocynth will often succeed.

ART. 18.—*On the comparative Efficacy of certain Medicines in Dysentery, and other Intestinal Fluxes of Hot Climates.* By Dr. PAPILLAUD, Brazil.

(*Charleston Medical Journal*, July 1848.)

The treatment of dysentery has varied in different epidemics, and inflammation, once considered a cause, is only one form, alteration of secretion another; in the most decidedly inflammatory form, the purely antiphlogistic treatment is seldom sufficient, and often useless. In diarrhœa the indication for sanguine emission is still less frequent—and even if it did exist, the physician is never called in, until the time for them has passed by. In Dr. Papillaud's private practice in France and in the hospitals of Paris, laudanum and starch injections, diet, and the extract of rhatany were usually sufficient, but he found since he practised in South America, that the former were insufficient, and that astringents usually aggravated the disease. In the province in which he lived, intestinal fluxes were very common, dysentery endemic and often epidemic towards the end of the summer. He experimented with castor oil, ipecacuanha, calomel, sulphate of soda; of the vegetable astringents, he tried rhatany and simarouba; of the mineral astringents, lime, acetate of lead, alum, and nitrate of silver; of narcotics, extract of opium and sulphate of morphia; from the results of these experiments, he determined to abide by sulphate of soda and opium, the effects of the other medicines being variable and uncertain. Castor oil does not sufficiently modify the intestinal secretions. Ipecacuanha is used not as an emetic, but as an antidysenteric. Introduced by the rectum, and causing neither vomiting nor purging, it is just as efficacious as when introduced into the stomach. Dr. Papillaud thinks its virtues have been overrated. The preparation and dose are not a matter of indifference. He prefers the infusion of the root, seven to thirty grains to four ounces of water, a table-spoonful every hour, as less provocative of vomiting than the powder. Calomel he rejects as uncertain, sometimes purging, sometimes being inert. The English practice of calomel and castor oil is very unsuccessful. The combination with ipecacuanha, in equal proportions in pills, is more efficacious. Sulphate of soda, he thinks, deserves the praise it received from Bretonneau and Trousseau, acting energetically and most rapidly. One or two drachms dissolved in a small quantity of vehicle, and given in divided doses, usually arrest a dysentery in twelve, twenty-four, or forty-eight hours at the longest. Any acute dysentery which is not suppressed in this time by it, calls for the closer attention of the physician, either as presenting complications, or being of extreme

gravity. No state of the pulse or tongue, counter-indicate its use in small, moderate, or large doses. In twelve or twenty-four hours the bloody stools are replaced by natural ones, the number is diminished to three or four, and the tenesmus disappears. In other intestinal fluxes it is equally efficacious. In only one very severe, advanced case, it increased the diarrhœa; in three, it was without effect. Rhatany and simarouba deceived his expectations. In the greater number of cases an amendment took place after the first twenty-four hours, but disappeared the next day.

Mineral astringents he condemns altogether. They caused violent pain in the stomach and bowels, increased the fever, and were of no benefit. A syrup of lime was only successful in some chronic diarrhœas without general symptoms.

Opium he considers equal to sulphate of soda, and together they formed one of the most efficacious combinations. He preferred the extract of opium, one grain in three to four ounces of vehicle, given in divided doses, and increased by a grain each day, if necessary; if the disease resist four grains, one grain of the sulphate of morphia was substituted, and progressively increased in the same ratio.

The sulphate of soda and opium were united, both because separately they were so efficacious, and further, because the sulphate of soda, not acting as a purgative, but as a general and local modifier, the action was prolonged by its union with opium, which prevented or retarded its expulsion by the action of the intestines.

Two-thirds of the patients treated by sulphate of soda and opium were cured in twenty-four hours. The maximum duration of treatment was five days, the minimum twelve hours, the average two days. Opium alone gave fewer rapid cures, but the maximum and mean remained the same. Ipecacuanha alone or with calomel gave an average of five days, and a maximum of eight. The deaths were as one in ten; with the former method as one in twenty. With astringents the treatment was inefficacious in half the cases—one fourth died: the duration of the treatment was from five to thirty days. General bleeding was indicated once in every twenty-five cases—local once in every fifteen.

These observations were collected in a province of Brazil, in twenty-nine degrees south latitude, therefore in an extra-tropical, warm region, and if we compare the results there with what occurs in France, we may conclude that the medical power of astringents in this class of diseases decreases in direct proportion to their acuteness and severity, and also in direct proportion to the elevation of temperature of the regions where they prevail.

The summary of his remarks is contained in the following conclusions:

1. Opium and sulphate of soda are the remedies, *par excellence*, in the great majority of intestinal fluxes, acute or chronic, sporadic or epidemic.

2. Either one of these, or both combined, suppress dysentery, without any danger.

3. Ipecacuanha, so much used in these diseases, is not a reliable remedy. When it did cure, it was owing neither to an emetic nor purgative property; it was most efficacious when tolerated; its introduction by enema was useful.

4. Calomel alone was more faithless still; added to ipecacuanha it promoted its toleration and regulated its action.

5. Vegetable astringents were seldom useful, and often hurtful. In the few cases where they are indicated they should be combined with opiates.

6. Mineral astringents were still less valuable, and more injurious than vegetable astringents.

7. The indications for local bleeding were very rare; that for general bleeding occurred only as an exception.

SECT. V.—DISEASES OF THE GENITO-URINARY SYSTEM.

ART. 19.—*Pathology and Diagnosis of Bright's Disease.*

By DR. JAMES F. DUNCAN.

(Dublin Medical Press, June 28th)

[A clinical lecture on this subject concludes with the following epitome of our present knowledge of the pathology of "Morbus Brightii:"]

To explain more clearly the recent discoveries upon this subject, I may mention that it has been satisfactorily proved by Dr. Johnson to be really a fatty degeneration of the kidney, constitutional in its origin, altogether unconnected with inflammatory action, and analogous to fatty degeneration of the liver, but from circumstances hereafter to be explained, infinitely more dangerous in its effects upon the economy.

The three great excretory glands of the human body are, the lungs, the liver, and the kidneys. Each of these has, for its peculiar office, the elimination of an essential element from the organism. Thus: the lungs remove carbon; the liver, hydrogen; and the kidneys, nitrogen. Not that they eliminate these singly or exclusively; various combinations of these elements are formed, but all for the purpose of rendering their removal more easy by the channel that nature has provided for the purpose. Thus, the carbon of the lungs is combined with oxygen, to give it the gaseous form, whereby it is readily carried off during respiration; the hydrogen of the liver is united with carbon, to form the various fatty matters that analysis shows us to exist in the choleic acid and cholesterine of the bile; and the nitrogen of the kidneys is united with hydrogen and carbon to form urea and ammonia. It is true that a quantity of nitrogen has been proved to be exhaled at the lungs, and a quantity of fatty matter is carried off at the kidneys, even in health; but the amount is so small, relatively speaking, that it may safely be asserted that the proper channel for the removal of each is that which I have just now stated. Whenever any of these processes is interrupted from any cause, a noxious accumulation of these elements results, and more or less injury is the consequence. You are all familiar with this in the case of the lungs. You are probably less familiar with it in the case of the liver. If the fatty matters which are composed of hydrogen and carbon be not removed in sufficient quantity, they accumulate in the vascular system, the blood becomes loaded with them, and a deposit takes place, first, into the parts naturally adapted for their reception—the subcutaneous cellular tissue, the omentum, mesentery, &c., and finally into the other parts not at all designed for the purpose—the muscular tissue, the cells of the liver and kidneys, &c., constituting fatty degeneration of these parts. The danger, however, is not equal in these various situations. In the liver, from the lax nature of the cellular matrix, and the facility with which it admits of enlargement, this lesion may exist to a considerable extent, without interfering materially with its proper function. In the kidney, on the contrary, from the dense arrangements of the parts, such a thing is impossible; congestion of the vascular apparatus necessarily results, producing the hypertrophied and mottled appearance which is described as the first stage of the complaint. Subsequently, as the pressure increases, the nutrition of the gland is interfered with, atrophy takes place, and the kidney becomes pale, small, and lobulated. This is the advanced stage.

That the disease is really due to the retention of these fatty matters in the system, and especially to their accumulation in a part unfavourably circumstanced for their reception, is proved not merely by a minute examination of the granular matter itself, but by a variety of other considerations which are worthy of your notice. If a patient labouring under the disease be bled from the arm, and the serum be allowed to separate from the crassamentum, it will exhibit a milky appearance from the presence of oil-globules, which can be removed by digestion in ether. Again, it has been noticed by Dr. Johnson as the result of his post-mortem examinations, that Bright's disease is frequently associated with atheromatous deposits in the arteries, which, you know, are really of a fatty nature, and still more frequently with fatty degeneration of the liver. The pale waxy com-

plexion that patients labouring under this disease exhibit, is perhaps due, not so much to the loss of blood, which is constantly oozing through the obstructed kidneys, as to the quantity of fat which is accumulated under the tegumentary membranes. It is a remarkable circumstance that we do not find emaciation to occur in these cases to the extent that we might naturally expect in so chronic a complaint. But the principal argument in support of this view is that which is derived from microscopic examination of the urine. This secretion properly consists of two parts—the water and the saline ingredients; the former in health is a simple percolation from the open capillaries of the Malpighian tufts; the latter is accomplished by means of epithelial scales, which are detached from the inside of the tubuli uriniferi, and which grow from time to time by an inherent vital action. The mechanism of these parts is admirably contrived to facilitate this process. The stream of liquid in its descent through the tubuli washes away the scales as they are formed, and both mingling together constitute the secretion such as it exists. These scales can be readily recognised by the microscope, as I have pointed out to you on several occasions. In health, they are quite free from any adherent fatty matter, and the fluid contains scarcely a trace of any oil-globules. In Bright's disease, on the contrary, both of these appearances become conspicuous in proportion to the extent of the mischief. In acute nephritis and scarlatina the number of these scales is augmented, but their size is diminished, and they evidently give the idea that they have not arrived at maturity. In the case of our patient, the absence of these characteristic appearances in the urine led me to conclude that he did labour under granular degeneration of the kidney, notwithstanding the many points of resemblance to that disease which his symptoms presented.

Let us now inquire how this theory will explain the operation of those agencies, which are ascertained to be the common producing cause of the complaint. These are, you may remember, intemperance, confinement, and unsuitable food. In fact, it is by the employment of these means that the disease has been artificially produced in animals by Dr. Johnson and others. Intemperance acts by introducing into the system oleaginous fluids of weak power (alcohol being, in fact, a combination of two atoms of olefiant gas and one of water), and perhaps, also, by its peculiar action on the lungs; for it has been ascertained that while the primary effect of stimulating liquids is to accelerate the respiration, the remote effect, on the contrary, is to diminish both its frequency and force.

Confinement and bad air operate obviously by depriving the economy of its proper quantity of oxygen. In health, when oxygen is freely supplied to the system, the carbon is consumed as carbonic acid, and the hydrogen as water. In the circumstances here supposed, these effects cannot be adequately accomplished, and the retained carbon and hydrogen enter into combination, and form fatty matters of various kinds. Innutritious diet, or that which is deficient in animal substances, acts injuriously from the want of nitrogen; for you are aware that ammonia consists of one atom of nitrogen and three of hydrogen—consequently, a free supply of nitrogenous matters must tend powerfully to get rid of one of those elements upon whose existence in the economy this disease depends.

I think it unnecessary to tell you that the treatment of this affection, before the present theory was propounded, was as uncertain and unsatisfactory as possible. The most opposite remedies were recommended for its removal, but the only opinion in which all authorities seemed to agree was in its incurability. Tartar emetic and bleeding, assisted by local cupping, were adopted by some, under the idea that it was a real but peculiar nephritis. Diaphoretics internally, and vapour baths were trusted in by others, under the impression that it resulted from suppressed perspiration; and others again adopted diuretics upon no very intelligible principles, though the general impression of the profession was decidedly against their use.

Now, on the contrary, instead of this confusion, our course becomes easy, intelligible, and simple; and though we may not anticipate success in every instance, we can clearly perceive that there is nothing in the nature of the affection to render it necessarily incurable or fatal. The microscope not only enables us to distinguish real granular degeneration, and those congestions of the kidney which are liable to be mistaken for it; but it enables us to do so at that very period in

the history of the complaint when the diagnosis is important. However dangerous the disease is in the advanced stage, at the earlier periods it is certainly capable of alleviation, if not of cure. The obvious course of proceeding in any such case would be—1st, to remove the exciting and predisposing causes where they exist, such as intemperance, and residence in an unwholesome atmosphere; 2d, to oxygenize the blood by active exercise in the country and in the open air; 3d, to avoid fatty and all other non-nitrogenous articles of food; 4th, to administer alkalis in free doses, which, by their action on the animal fats, will probably render their elimination more easy of accomplishment; and, 5th, to administer purgatives, so as to keep up a tolerably free action of the bowels.

[For an abstract of Dr. Johnson's views, see 'Half-Yearly Abstract,' Vol. III, p. 162.]

ART. 20.—*Ergot in Retention of Urine*.—M. Allier read a communication on the use of ergot in retention of urine. According to him—1st, ergot restored contractility to a bladder which had been paralysed by over-distension; 2d, it has succeeded when other remedies have failed; 3d, it has been equally successful in paralysis of the bladder following apoplexy; 4th, it does not exert any beneficial influence over hemiplegic limbs; 5th, it is useless in retention of urine from enlarged prostate; 6th, the medicine must be given in repeated small doses; but it may amount to a drachm and a half per diem.

[A case illustrative of the good effects of the ergot in retention of urine is related by Dr. Jeffreys, of Liverpool (now of Shrewsbury), in the 'Provincial Journal,' for 1844, p. 44. Dr. Ross, of Cambusmore, in the county of Sutherland, reports a similar case; see 'London and Edinburgh Monthly Journal,' for January, 1844, and 'Provincial Medical Journal,' vol. vii, p. 378. See also Johnson's 'Medico-Chirurgical Review,' for July and October, 1839.]

Prov. Med. and Surg. Journal, Sept. 6th.

ART. 21.—*Liquor Potassæ in Strangury*.—Dr. Mulock states that, in three cases of strangury from blistering with cantharides, he found speedy relief from liquor potassæ, in thirty-drop doses every hour. He was led to the use of this preparation from its known effects in relieving irritation of the bladder in other cases. He thinks it may prove an antidote for cantharides taken internally, and suggests that a trial should be made when an occasion offers.

Dublin Quarterly Journal, Aug. 1848.

SECT. VI.—DISEASES OF VARIABLE OR UNCERTAIN SEAT.

ART. 22.—*On the Proximate Cause and Treatment of Gout*.

By ANTHONY WHITE, Esq.

(*Medical Gazette*, Aug. 18, 1848.)

[In the following communication Mr. White gives us the result of his study of gout in his own person; his definition of the disease is comprised in the words of Dr. Holland, as below:]

But first, for the sake of clearness, it will be well to define the actual state of our knowledge as to the intimate nature of gout; and this I think cannot be better expressed than in the following propositions, wherein Dr. Holland has comprised all that is ascertained, or to be strongly presumed on the subject:

1. "That there is some kind of bodily organization disposing to gout, because it is an hereditary disease.
2. "That there is a *materies morbi*, whatever its nature, capable of accumulation in the system, of change of place within the body, and of removal from it.
3. "That though identity be not hitherto proved, there is a presumable relation between the lithic acid or its compounds, and the matter of gout; and a connexion through this with other forms of the calculous diathesis.
4. "That the accumulation of this matter of the disease may be presumed to

be in the blood; and its retrocession or change of place, when occurring, to be affected through the same medium.

5. "That an attack of gout, so called, consists in, or tends to produce, the removal of this matter from the circulation, either by deposition in the parts affected, by the excretions, or in some other less obvious way, through the train of actions forming the paroxysm of the disorder.

6. "That there is an intimate relation between the condition of gouty habit and the functions of the kidneys and liver, both in health and disease.

7. "And that the same state of habit or predisposition which in some persons produces the outward attack of gout, does in others, and particularly in females, testify itself solely by disorder of internal parts, and especially of the digestive organs."*

The opinion that hereditary predisposition to gout consists solely in a peculiar character of the ligamentous and other associated textures, is surely untenable, although it has been advocated by some authors of eminence. The disease, however prone to affect the joints chiefly, is incident likewise to all the other fibrous textures of the body without exception. The constitutional disturbance that precedes its attacks—the many functional aberrations of the assimilating, secretory organs by which it is accompanied—its erratic character, and the rapidity of its transitions from one part to another—are facts tending most strongly to the conclusion that the immediate cause of the malady is not local, but general, and that the vehicle of its diffusion over the whole system can be nothing else than the circulating fluids.

Furthermore, did we suppose that hereditary transmission of gout is identified with a peculiar condition of those solids which are the most frequent seat of gouty inflammation, its active development would then have to be accounted for in one or other of the two following ways: Either the transmitted peculiarity in question is an actual *materies morbi* deposited in the vitiated textures, or it is such a structural peculiarity of the latter as renders them especially liable to the noxious influence of a morbid principle produced in the body by other causes. Either hypothesis leads to the conclusion that gout is a blood disease. The second of the two does this directly and immediately, for it assumes the independent existence of an exciting cause, to be brought in contact with the morbidly predisposed parts through the medium of the circulation; whilst, on the first hypothesis, it is evident that the transmitted *materies morbi* must be taken up into the blood, contaminating its mass, and producing in it effects analogous to those caused by other animal poisons imbibed from without.

But there is another class of solids, namely, those concerned in the functions of organic life, which have paramount claims to attention in every inquiry like the present. It is evident that any inherent vice in one or other of the great chylipoietic viscera must of necessity induce a proportional depravity in the circulating fluids. Reasoning, then, *à priori*, there is nothing unwarrantable in the conjecture that the real *fons malorum* transmitted by the gouty to their offspring is an unwholesome blood-making apparatus. Such a conjecture, I repeat, is by no means improbable, and my own observations and reflections are all in favour of its positive truth.

On the whole, then, we may safely admit that hereditary gout is a disposition to generate a certain morbid matter within the body, whether that disposition be the effect of some abnormal organic condition, promoting its formation or impeding its due excretion, or of some transmitted impurity of blood, which tends, as usual in such cases, to reproduce and continue itself by vitiating the nutritive functions.

The same disposition, but created by other causes, must obviously exist in those cases in which gout occurs as an idiopathic disease. Its individual or ancestral origin is a circumstance which may influence the intensity of its development and its pertinacity in the system, but in no way affects its intrinsic nature. Whether hereditary or not, it presents the same general characteristics, and is of course attributable to the same material agent.

Setting out, then, from this cardinal principle of a *materies morbi* circulating with

* Medical Notes and Reflections, by Henry Holland, M.D., p. 116.

the blood, we have next to investigate its nature and its origin. And here we are struck, on the very threshold of the inquiry, by the close affinity between the gouty and the lithic-acid diathesis—an affinity so remarkable that a very general disposition prevails among medical writers to consider lithic acid as the true gouty poison, and to impute its presence in the system to the impaired action of the kidneys.

As to this latter notion, the arguments adduced in support of it appear to me to be based on a singular misapprehension of patent facts. The discharge of lithic acid and its salts in the urine is a salutary process; and while the kidneys are actively performing such a process, it is strange, indeed, to charge them with creating the offensive matter they only serve to remove. It is not from the presence of lithic acid sediments in the urine of the gouty, but from their absence, that we should be warranted in ascribing to defective action of the kidneys the accumulation of that excrementitious matter in the system. If the blood was manifestly surcharged with lithic salts or their equivalents, while none such escaped in the urine, then, indeed, we should have reached the end of our inquiry in full assurance that the kidneys were the very matrices of gout. But it is not so in reality; and the most we can venture to assert is, that the renal functions, in common with others, are secondarily affected by the cause, whatever it be, of the gouty diathesis.

I think it the more necessary to insist on this point, as it is one on which so acute and lucid a reasoner as Dr. Holland appears to have fallen into error. "The kidneys," he says, "are evidently the organs of the body upon the disordered or deficient action of which depend those changes in the circulating fluids which have the closest relation to all the phenomena of gout." He would, I think, have been nearer the truth if he had said that the kidneys are, of all organs, those whose secretions afford the most faithful and the most readily discernible evidence of the changes aforesaid.

However intimate the connection between the gouty and the lithic acid diathesis, evidence is yet wanting to establish their actual identity. If the *materies morbi* we are in search of was nothing else than lithic acid, we should naturally expect to find every considerable development of that product followed by a gouty paroxysm. But this is notoriously not the case. It is no uncommon thing to find the urine constantly loaded, during a long period, with lithic acid sediments, without the occurrence of a single gouty symptom; while on the other hand, it is known that the gouty paroxysm sometimes occurs without the existence of an excess of lithic acid in the urine. Instances of this kind, occurring in asthenic forms of the disease, have been mentioned by Dr. Todd in the Croonian Lectures for the year 1843:—"I have remarked," he says, "a peculiarity belonging to most of the cases of this kind that I have met with; namely, that the urine does not exhibit the abundant precipitate of lithates which so often accompanies the gouty paroxysm. In some instances there was no precipitate at all; and in others it was very slight. And the specific gravity of the urine was rather below than above the ordinary standard, indicating that no excessive quantity of either urea or lithic acid was held in solution."

The gouty poison, then, is not identical with lithic acid, but is so near akin to it that the chemical and pathological characteristics of the latter may, probably, yet serve as indices to guide us to the discovery of the former.

"Organic chemistry," says Dr. Holland, "has taught us how readily the elements out of which all animal matter is formed are displaced from one combination and enter into others; and how very slight, frequently, are the differences indicated by analysis, between substances eminently noxious to the system, and those indifferent or beneficial to it. We owe, further, to recent experiments, the explicit proof of what simple observation had partly shown before—the remarkable effect upon the whole mass of the blood of minute quantities of certain matters brought into the circulation—leading to the inference of analogous effects from an increased proportion of one or other of its principles accumulating or being unduly retained in the body. . . . These circumstances, now familiar to us, do certainly not identify the material cause of gout with any of the animal excretions just named (lithic acid, urea, the lithic or purpuric salts, &c.); but they tend to concentrate our views towards them, and give a much more specific direc-

tion to future research. The assured connexion of the gouty with the calculous diathesis, the chemical nature of the concretions and deposits in the former, and the evidence that these deposits often become in part a substitute for the more active forms of the disease, all concur in the further sanctioning the same general view. If we cannot affirm that urea, the lithic acid, or other animal compounds circulating in the blood, give cause to the phenomena of gout, under the most cautious reasoning we are at least entitled to assume, with some confidence, that these matters secreted from the kidneys *are the equivalents to gouty matter present in the system*; that they have certain proportion of quantity to each other, and that upon their balance depend all the essential characters of the disease, its modifications being determined by various causes, some of them topical, some belonging to general functions implicated in the effects of this common cause."

I particularly invite the reader's attention to the words above printed in italics. They imply that the morbid development of lithic acid and its salts may be due to the presence of some principle altogether unlike them in sensible properties and chemical composition.

And now we may proceed to deal with the special object of this paper, which aims at determining the primary seat, and the essential nature, of the disease in question. To this end I shall succinctly narrate the course of induction whereby I arrived at those views which I desire to recommend to the candid examination of my professional brethren.

Having endured innumerable visitations of gout, and having had recourse to a variety of medicaments, some of which were fearfully destructive to my general health, I at last set about watching attentively the method which Nature herself adopts for the cure of this disease. Thus it frequently happened, during my forty years' conflict with my hereditary malady, that I submitted to the old plan of patience and flannel, leaving the disorder to run its course, and wear itself out by its own violence. On several of these occasions I was attacked with sickness and vomiting, accompanied by acrid bilious discharges from the bowels; and these evacuations were followed by immediate relief as to every local and constitutional symptom. Sometimes the result was an entire cessation of the paroxysm; at other times the alleviation was more partial; but repeated experience convinced me that the degree of relief obtained was always proportioned to the copiousness of the bilious evacuations. Pursuing this hint given me by Nature, when the spontaneous diarrhœa has been too scanty, I have assisted it with five grains of calomel. These in a few hours produced copious bilious discharges; the gout departed, and I was well again.

The conclusion forced upon my mind by these facts, recurring again and again during a period of so many years, is, that not to the stomach, or the kidneys, or to the impaired functions of any other viscus than the liver, is the cause of gout ascribable.

In corroboration of this view, I may appeal to the character of all those medicaments which at various times have been held in estimation as specifics against gout. One property is common to them all, namely, that of strongly stimulating the hepatic functions. The *eau médicinale*, which was introduced into this country about twenty years ago from France, was a remedy of this class. It was sold in one drachm bottles (this was the dose), and its effects were certainly very remarkable, frequently removing the most painful attacks of gout in one night. The composition of this potent nostrum long remained a secret. It was conjectured to contain white hellebore; and I recollect the physicians of the Westminster Hospital prescribing a vinous infusion of the latter, in one drachm doses, with great success, as a substitute for the *eau médicinale*. The revived use of colchicum or meadow saffron, which I believe to be the essential ingredient in the *eau médicinale*, has put us into possession of an invaluable antidote to gout; but how does this colchicum act beneficially? Assuredly not on the stomach, which it nauseates; assuredly not on the heart or circulation, which it distresses; but it acts on the secretions of the liver; and long personal experience has taught me that, until the functions of that organ are called into vigorous play, the colchicum is worse than useless.

Latterly it has been my practice to use colchicum in combination with other

medicines. When I was in the habit of taking it singly, my dose was generally about sixty drops of the wine of the seeds, repeated every six hours. After three or four such doses the bowels were acted on; the evacuations had the odour of the colchicum, deeply tinted; scalding bile was passed, and I was well, for I needed no more.

Now, if a spontaneous evacuation of bile operates critically to the relief of the gouty paroxysm; if five grains of calomel produces relief: if just so much colchicum or other medicine produces relief as is sufficient to cause a copious discharge of bile, then is it demonstrated that the diminished or altered state of the hepatic secretion, which is always a concomitant of gout, is not to be classed among the secondary phenomena of that disease, as pathologists have hitherto invariably supposed.

Let A and B be any two phenomena whatever, and suppose that B is never found except in company with A, then will there be reason for concluding either that one of the two is the cause of the other, A of B, or B of A, or else that both are parallel effects of some third principle. But suppose it to be found that, whereas B never presents itself unaccompanied by A, yet A may exist without B, and that when both are present, the removal of the former is invariably followed by the disappearance of the latter, then it will be manifest that A is the cause of B.

The correctness of this abstract reasoning will, I presume, be admitted without question. To apply it to the subject of our present inquiry, we have only to substitute for A and B the phrases "impaired functions of the liver," and "paroxysm of gout."

No writer that I am aware of has ever propounded, or even surmised, the doctrine that the proximate cause of gout is a functional disorder of the liver; and I cannot overcome the astonishment that possesses me when I think that it should have been reserved for me to make such a discovery. The principle, when once divulged, appears so plain and obvious, that it is wonderful it should have been overlooked so long. Such has been the feeling expressed by several of my professional brethren to whom I have communicated my views. Seldom have my conclusions failed in such instances to receive a prompt and full assent, and to elicit from each of my hearers the exclamation, "How is it possible I never thought of that before?" But the history of science is full of examples, showing how inquirers have for ages been shut out by the filmiest barriers from the acquisition of precious truths.

The derangement of the liver, which always accompanies the gouty paroxysm, and manifests itself by unequivocal signs, such, for instance, as the pale colour of the fæces, is too obvious to have escaped notice. Accordingly, writers on the disease have constantly adverted, more or less prominently, to this pathological fact; but they have all failed to assign to it the position it really occupies in the train of symptoms. The tendency of their speculations have generally been to consider the disorder of the liver as consequent upon that of the stomach, whereas the converse doctrine is far more consonant with observation and with physiological principles. Acidity in the stomach is an unfailing element in the gouty diathesis. Now, such a condition of that organ may, undoubtedly, react on the liver, and impede or vitiate its secretions. On the other, we know that a very important office performed by the bile is the neutralization of the free acid, which is always developed in the stomach during healthy digestion, and is, therefore, a constant ingredient in chyme; only assuming a morbid character when it is excessive or otherwise abnormal. Hence, giving two co-existing facts—acidity of stomach, and deficiency or faulty composition of bile—it will be natural to surmise that the former is the effect of the latter, and nothing less than specific proof could justify our adoption of the opposite conclusion.

It is a fact of great importance to the decision of this question, that, however the administration of antacid medicines may alleviate the heartburn and the other distressing effects of acidity in the *primæ viæ*, such remedies never rise above the rank of palliatives in the treatment of gout. They have not the least efficacy in restoring the healthy action of the liver; whilst, on the other hand, whatever accomplishes that object never fails to remove every other dyspeptic symptom likewise.

The liver, then, is the *officina* in which is elaborated the *materies morbi* on which the whole train of gouty symptoms are dependent. What may be the precise nature of that poison I do not pretend to determine. That remains an interesting subject for future inquiry, to which I may venture to hope that I have given a fresh impulse and an increased prospect of success, by defining its proper point of departure, and the direction it should take. The one new leading fact which I affirm as demonstrated, is sufficient to indicate very distinctly the mode of treatment which offers the only rational hope of removing the gouty diathesis, and also to explain the success which has partially attended the various empirical methods which have been adopted for the cure of the disease.

The main object to be pursued towards the effectual cure of the gouty paroxysm, by the removal of its immediate cause, is the restoration of the natural functions of the liver, as indicated by a copious discharge of bile through the bowels. This object may be attained, more or less promptly and sufficiently, by the administration, either of calomel or colchicum, or of some other potent deobstruent of the hepatic system. But here, as in other instances familiar to the minds of my readers, the principle of combining analogous remedies will be found strikingly advantageous. My own practice has long been to rely exclusively for the cure of gout on the following prescription:

℞ Hydr. chlorid,
Ext. colchici acet,
Aloes purificati aa. gr. j;
Pulv. ipecac. gr. ij.

M. et fiat pilula quartis horis sumenda.

Two or three of such pills are generally enough to produce a considerable disorgement of the liver, which I then assist with one or two doses of the compound decoction of aloes. By this time the gouty paroxysm has ceased, or much mitigated.

[In conclusion, the author repeats that gout is only a peculiar manifestation of functional hepatic disease.]

ART. 23 — *Treatment of Acute Rheumatism.* By Dr. JAMES TURNBULL.

(*Edinburgh Med. and Surg. Journal*, No. 176.)

In treating acute rheumatism, the first point which I take into consideration is, whether the patient will bear bloodletting from the system or not; and in all cases where the constitution of the patient is of ordinary strength, and the febrile disturbance considerable, with full pulse, and much redness, pain and swelling of the joints, I do not hesitate to direct that twelve or sixteen ounces of blood should be taken from the arm. This prepares the system to receive the full benefit of the medicinal part of the treatment, which is often quite inefficacious until vascular action has been reduced by depletion. When the first bleeding is followed up by other treatment, I seldom find it necessary to repeat it a second or third time: and when the patient is of weak constitution or anæmic, or when the febrile disturbance is moderate, general depletion is neither necessary nor beneficial. After bleeding, I give from five to ten grains of calomel with a grain or a grain and a half of opium, and next morning a purgative draught, with infusion of senna, Epsom salts, calcined magnesia, and half a drachm of the tincture of colchicum. This is repeated every day, or every second day, according to the effect produced, until three or four doses have been taken. Twenty or thirty minims of colchicum are also given with carbonate of soda or magnesia twice or thrice a day, not, however, with the view of purging the patient, that effect being insured by the other means, but for the purpose of neutralizing and expelling by the kidneys the acid secretions generated in the system in rheumatism as well as gout. Besides using opium with the view of controlling the action of calomel, I also give it the form of pill containing one grain, and repeat it twice, thrice, or four times in the twenty-four hours, whenever the severity of the pain or the want of sleep are such as to indicate the employment of this remedy. Patients are

not unfrequently brought to us having the disease in a subacute form, the pain being very harassing, and yet the constitutional disturbance but trifling. In some instances, too, the disease passes into this subacute form after active antiphlogistic treatment has been adopted. In such cases I give opium in the manner described, and purge the patient moderately.

When all acute symptoms have subsided, I occasionally prescribe quinine; but I prefer the iodide of potassium in compound decoction of sarsaparilla, or infusion with gentian, with occasional warm baths.

The three great remedies employed by almost all medical men of experience in the treatment of acute rheumatism will be found to be bloodletting, calomel as a purgative, and opium; and the chief differences in their methods of treatment consist in the extent to which they use each of them, and the precision with which they combine them so as to adapt them to individual cases, and thus attain their object of cutting short the disease. The plan of treatment already described, with the success of which I have every reason to be satisfied, differs from that recommended by Dr. Macleod, chiefly in the more moderate extent in which bloodletting is practised. He observes that, "in well-marked cases of rheumatic fever, within the first week of their onset, and in individuals of the average degree of robustness, from twelve to twenty ounces of blood may be abstracted with advantage, several successive times in the course of five or six days." It more closely resembles the method of treatment recommended by Dr. Latham, who, while he has observed that, by one of these methods singly, we may, in some cases, treat acute rheumatism successfully, recommends a compound of all the three as safer and more successful. "I believe," he says, "that, in the treatment of this disease, and in the same cases, by the judicious use of opium you may spare blood, and by the judicious use of bleeding you may spare opium; that by calomel and purgatives properly administered you may make bleeding and opium less needful, and that by bleeding and opium discreetly employed, you may leave less to be effected by calomel and purgatives."

Endocarditis.—Whenever any inflammation of the valves of the heart has been discovered, the preceding method of treatment has been modified, and, in addition to general bleeding, local depletion by cupping or leeches has been practised, and two grains of calomel with half a grain of opium have been given. Where calomel has been prescribed at an early period in large doses as a purgative, I am disposed to think that local depletion is of almost as much importance as the constitutional effect of mercury; for I have seen several instances in which the system could not be brought under the influence of mercury, and yet where the signs of valvular inflammation entirely ceased, the thickening of the valves appearing to subside along with the inflammation of the joints under the same treatment, and as one of many parts affected by a disease which pervades the whole system, but becomes located in certain parts only, of fibro-serous structure.

It has appeared to me that the small doses of calomel with opium often exercise as beneficial an effect upon the rheumatic affection of the joints as upon the cardiac complication, when the calomel is laid aside immediately upon the system becoming affected. The continued action of mercury upon the system has, however, seemed to me to prolong the disease in a subacute or chronic form in some cases; and my experience coincides, therefore, with that of Dr. Macleod, who states that, at one time, he was always in the habit of giving calomel with opium, but that he repeatedly observed that the rheumatism continued, although the mouth was affected, while it speedily subsided on continuing the narcotic and purgatives without the mercurial. Some have recommended the continuance of the mercurial action for a much longer period than I consider to be either necessary or expedient. Dr. Hope speaks of its employment for three, four, five, or six weeks. I can scarcely, however, think that a valvular murmur, which persists after the month has been sore for a fortnight or three weeks, will be more likely to be removed by a prolonged continuance of this debilitating sorbescient than by the natural absorbent powers of the constitution. In deciding in any case with valvular murmur whether we should bring the patient under mercurial influence, or continue it for a length of time, we should first know if the patient has had any previous attack of acute rheumatism, and should take into consideration

every circumstance which can lead us to form an opinion as to whether the murmur proceeds from recent endocarditis, or from old valvular disease. Dr. Taylor's able exposition of the causes of pericarditis and endocarditis, would seem to show that old valvular disease has been not unfrequently mistaken for recent endocarditis.

ART. 24. *Treatment of Acute Rheumatism by Nitrate of Potash*—[M. Seux confirms the statements of various writers as to the curative powers of nitre in large doses in acute rheumatism. After detailing a case, he observes:]

The dose which it is necessary to exhibit should be at least from four to six drachms a day, dissolved in a pint of ptisan; the dose may be increased to eight or ten drachms, but in that case the quantity of the diluent must also be augmented. In this manner all risk of intestinal irritation may be avoided. With these precautions no unpleasant consequences have followed the exhibition of these large doses of nitre. If in some few cases diarrhœa has resulted, it has in general been readily subdued by the addition of some preparation of opium.

Revue Médico-Chirurg., Avril.

ART. 25.—*On the Remote Causes of Diabetes.*

By WILLIAM WATTS, M. D., Physician to the Nottingham Dispensary.

(*Lancet*, May 20, 1843.)

[Having in previous essays (see Abstract, Vol. I, p. 219) shown that the proximate cause of diabetes is to be sought in some morbid condition of the great sympathetic system, which induces diseased innervation, and consequent imperfect discharge of function in the stomach, Dr. Watts proceeds, in the present series of papers, to demonstrate that the remote causes of the disease are such as are capable of producing this morbid condition of the organic nerves. He observes:]

The remote causes are divided into predisposing and exciting. The hereditary predisposing causes are those which more than any other render the body liable to functional diseases of the assimilating organs, viz: sanguine temperament, strumous diathesis, malaria, &c.; but they are not so powerful in the production of diabetes as are the acquired predisposing causes, which, in the words of Dr. Prout, "are any having a tendency to sap the foundations of organic life, and more especially of the processes of assimilation."

According to the results of my own inquiries, the acquired predisposing causes of diabetes appear to induce it in three separate and very distinct ways. One set acts by primarily inducing active disease of the stomach and other viscera, which, after long continuance, reduces the tone of the organic nervous influence supplied to them, and this terminates in diabetes.

Another set acts by gradually reducing the organic nervous energy to a point beneath that condition which is requisite for the due performance of the organic functions. And the last class of these acquired predisposing causes appears to act proximately upon distant organs, between which and the organic system of nerves there is an intimate relation: and by powerfully influencing the functions of the former, produce a sensible modification of the functions of other organs supplied by the latter.

Diabetes generally results from the conjoint action of several of these predisposing causes, rather than from any applied singly; yet I trust I shall be able sufficiently to illustrate the separate action of the several classes, so as to make the whole subject easy of comprehension.

Of the first class of these acquired predisposing causes, in which the stomach appears to have been subjected for a considerable period to the action of powerful stimulants and irritants, until, at length, its vital power is reduced from too powerful and too long a continued stimulus, the author has adduced several examples in the papers on the proximate cause of diabetes, published in the *Lancet*, vol. ii, 1842-3, p. 66, and also vol. i, 1845-6, p. 438; and he further illustrates the point by the narration of some additional instances.

[Respecting these and the preceding cases he remarks:]

These cases, together with those I have previously given, are amply sufficient to show the action of the first of the classes into which I have divided the predisposing causes of diabetes. Although the production of a general cachectic condition, accompanied by gastric disease as a consequence of the improper use of mercury, is a fact long known to the world, yet I cannot resist making the following extract from Mr. Travers's very valuable work on Constitutional Irritation, as showing how the functions of organic life are affected by the action of mercury:— "Mr. Swann, the accurate and indefatigable anatomist of Lincoln, in the course of his minute researches into the morbid appearances of the medulla spinalis and its nerves, has rarely been enabled to discover vascularity sufficient to constitute inflammation, except upon the semilunar ganglia of the great sympathetic, which, when the system has been impregnated with mercury, he describes both upon the surface and upon the section as most unequivocally inflamed, exhibiting, when compared with a sound ganglion, the appearance of a bloodshot eye as compared with an eye in its natural state, or free from coloured vessels."

When it is thus seen that mercury produces inflammation of the semi-lunar ganglia, whence the nerves spring which are distributed to the stomach, and which mainly contribute to the function of digestion; and when it is borne in mind that, amongst the morbid changes of structure found after death in those who have suffered from diabetes, Dr. Andrew Duncan and Dr. Percy have enumerated enlargement of the solar plexus, there will be little difficulty in appreciating how mercury acts as a remote cause in the production of diabetes.

[The second class of acquired predisposing causes mentioned by the author are those which depress organic nervous power primarily, such as insufficiency of food, the depressing passions, &c. These are likewise illustrated by interesting cases; and the author concludes his essay with the following deductions:—]

1. That diabetes is a disease of the function of primary assimilation, of a cachectic character, and that it is a congener of gout and scorbutus.

2. That it arises from the operation of causes of a widely opposite character, some of which have a tendency to produce, and do actually cause, structural changes in many of the chylipoietic viscera, but which structural change is not necessarily connected with the existence of diabetes.

3. That the cachectic condition of the organic nervous influence predisposes to structural changes taking place in those organs which minister to the continuance of organic life.

4. That during the existence of any other serious disturbance in the system, supervening either during the course of, or as a further consequence of, those morbid causes which have induced diabetes, this latter, being only a disease of function, is suspended for a while, and returns on the subsidence of the stronger morbid action.

5. That the generic appellation, diabetes, is not correctly limited to the metallic form, but ought to be extended to the insipidus and the ureosus, into both which it is interchangeable.

6. The diabetes mellitus may exist without either the canine appetite or the extreme thirst being present.

7. That diabetes insipidus (as far as I have hitherto been able to learn) never exists without the coexistence of some increase of thirst.

8. That both the morbidly-increased appetite and thirst are not, as is supposed by Drs. Proant, Ellison, and others, the consequence of the drain exerted upon the system through increased secretions from the kidneys, but are symptoms of a morbid change in the innervation, distributed to the stomach by the organic nerves.

9. That the changes in the character of the solid constituents of the excretions are indicative of the extent to which the primary assimilating process has been effected.

10. That the deposition of fat in the various tissues of the body is the result of an imperfect assimilation of certain alimentary principles, and that it occurs previously to the stage in which emaciation appears in the downward course of the disease; and also that it follows the emaciating stage as the disease progresses to its cure.

11. That the existence of the fatty stage is common both to the insipid and metallic form of diabetes.

12. That the disease admits of cure, so far as the existence in the urine of the morbid products of mal-assimilation is concerned; but whether the minor degree of gastric disease which existed prior to the diabetes ever completely subsides is a matter of doubt.

13. That as the various form of diabetes result from the action of widely-different predisposing causes, and therefore present different types in different cases, consequently no one plan of treatment can be in all cases successful; but that to obtain the most favourable results, the treatment must be modified according to the character of the type and the period of the disease.

ART. 26.—*Clinical Remarks on Dropsy.* By MR. CORFE.

(*Medical Times*, May 27, 1848.)

[After the enumeration of views on the function and structure of the kidney, peculiar to himself, Mr. Corfe proceeds to speak of dropsy as follows:]

Dropsy, in its general acceptation, is not a disease, but only a symptom of one, in the same manner that redness, swelling, and heat of the skin are the several symptoms of inflammation of the skin itself. In the present day, when pathological anatomy on the one hand, and chemical investigations into the composition of morbid fluids on the other, have afforded so much instruction to the physician, the nosologist may not define dropsy as an idiopathic disease. Some organ, or a set of organs, becomes deranged in the functions: secretion and absorption are no longer duly balanced throughout the system, and an accumulation of serous fluid exhaled from the capillaries is the result thereof. When this effusion takes place from the capillaries throughout the adipose cells of the whole body, it is known as anasarca. When the cells themselves are not broken down or ruptured by the distended fluid, the anasarca is brawny, hard, and tense; but, when the accumulated fluid has destroyed the cellular form of the adipose tissue, the anasarca is then soft, doughy, pitting, and the skin is shining and glazed. The first-mentioned species of anasarca occurs in robust, strong, and plethoric individuals, who labour under no organic disease of the body, and it is the only form of dropsy which really deserves the title of an idiopathic disease, since the precise nature of that disease is not yet satisfactorily elucidated by pathological writers. The second species is almost invariably connected with some morbid changes of structure, and diseased action in the viscera of the body. When dropsy first evidences itself in the legs and ankles, it is usually "cardiac" in its origin; but when it also shows itself in the face and eyelids, in addition to the extremities, it is "renal;" whilst, on the other hand, if it makes its first invasion in the abdomen, it is commonly "hepatic" in its origin; and valvular cardiac disease, with dilatation of the cavities and thinness of the walls of this viscus, betrays itself in an early effusion into the pleural sacs, constituting dropsy of the pleuræ, or "hydrothorax." When an ovum has escaped from its vesicle, and when, instead of passing along the fallopian tubes into the uterus, it has remained in the body of the ovarium, distended the gland with its peritoneal covering, and has caused inflammation to be set up in its neighbourhood, the origin of "ovarian" dropsy is at once established.

If the mesenteric glands are the seat of scrofulous disease and enlargement, the obstruction which they offer to the circulation, the deficient absorption and nutrition which attends their increase, give rise to "mesenteric" dropsy; whilst the results of peritonitis, by forming adhesions between this serous covering and the intestines, depriving the latter of that peristaltic motion so indispensably necessary to the healthy action of the alimentary canal, causes "peritoneal" dropsy.

The frequent attacks of ague in early life usually leave some morbid changes in the character of the spleen, whereby the portal blood becomes diseased, the liver deranged, the constitution enfeebled, and "splenic dropsy" is the result.

But as it happens in the vegetable world, that if there is too much moisture on the earth, and no sun to vivify the soil and the plants, or, on the other hand, if there is a long drought, and the continued rays of a vertical sun, vegetation under

neither of these circumstances progresses or flourishes; so in like manner, if derangement of one organ in the animal frame arises, disorder soon pervades the whole body.

We, therefore, find that, whenever any one organ which is essential to life becomes diseased in its structure, deranged in its functions, other organs, sooner or later, are involved in the general disturbance. It rarely happens, therefore, that dropsy, in the abstract sense, continues for any period to present itself as symptomatic of structural disease in one organ only. If the origin of this derangement should spring from cardiac disease, the undue circulation of blood, and the delay of its smaller columns through the hepatic system, will induce diseased liver, and this change may sooner or later bring on splenic and renal disease. Thus it is that a dropsical patient will oftentimes inform us that "Dr. So-and-So told him his liver was affected, whilst Mr. So-and-So declared he had got some complaint in his heart; but his own family doctor, who brought all his children into the world, was quite sure that his complaint lay in his kidneys!" Now, peradventure, on examination of our patient, with some degree of judgment and careful scrutiny, we shall be satisfied that one and all of the three gentlemen are correct in their diagnosis. The patient, it may be, originally suffered from an acute attack of albuminous urine; this morbid condition of the system induced vitiated blood, cardiac disease, and hepatic derangement, from all of which causes dropsy supervened; so that if the practitioner is acute in his judgment, discriminating in his investigations, and cautious in the formation of his diagnosis, he may generally ascertain which was the offending organ in the first instance, and how far disease has made its ravages in this and in other organs that have been subsequently involved in the constitutional disturbance.

[In illustration of the clinical history of dropsy, the author adduces the annexed case as one of somewhat difficult diagnosis:]

A man, about the age of 40, presents himself for advice; his frame is somewhat emaciated, his countenance is pallid, and his features are pinched and shrunken. You observe that he bends the trunk forwards, and that, as he addresses himself to you, the respiratory organs are labouring, the *alæ nasi* are at work, the breathing is hurried, the lips are of a faint leaden hue, and the angles of the mouth are slightly drawn downwards. He shows you his ankles; they are somewhat puffy, but there is no œdema elsewhere. His abdomen is full, tense, and somewhat painful about the epigastric region, but there is no evidence of peritoneal effusion. He states that he has suffered greatly from dyspeptic symptoms, and nauseous taste in the mouth; that his sleep is disturbed, and that he requires a higher posture in bed than heretofore; that his urine is plentiful and tolerably clear; and, moreover, that these symptoms have been gradually pressing on him for several months; but what with anxiety about his family, his work, and his difficulties in business, &c., he had not attended sufficiently to his ailments to induce him to seek any medical advice, or allow himself to be put under any prescribed form of treatment. What is the diagnosis which a reader would form from such an outline? Probably the first impression on the mind would be that it was cardiac disease only; and I believe that a vast number of such cases occur in which the practitioner never sees farther into the man's disease than this; and he judges it is cardiac, merely because the symptoms of organic derangement of that viscus are the most marked and the most prominent. But if he is a scrutinizing man, and an attentive clinical student still, although with hoary hairs scattered over his head, he will, I say, go somewhat further in his investigations after the real seat and origin of the disease than this. What does he then elicit? Some of the following pathological features may be drawn out. The early stages of the disease under which our patient now suffers were ushered in, he acknowledges, with some dull aching across the loins; that the urine was then turbid, and perhaps rather scanty; that he is now disturbed three or four times during the night to pass it. We obtain a little of this urine; we find its specific gravity only 1008; it is clear, limpid, and with little colour, faintly acid, containing no albumen. In reply to further interrogations, he confesses that he is occasionally distressed with tightness across the forehead, or a settled dead pain over one brow and temple, which incapacitates him from any mental exercise; that his bowels are capricious

as well as his appetite; that all fluids distress him by inducing flatulence and acid eructations; that he never perspires as he formerly did; that the shortness of breath is of more recent date, but that it is unconnected with any history of previous rheumatic disease of the heart. When the hand and the ear are both placed over this organ, we find that its impulse is feeble and diffused, whilst its sounds are dull and prolonged; there may be some preternatural whizz with the systole also.

What may we now infer from these hints which we meet with in our researches after truth? We can confidently affirm that the first cause of dropsy, in this instance, was an albuminous disease of the kidneys. Their secreting structure has thereby become altered in character. They have long ceased to eliminate from the system those solid constituents which enter into the composition of healthy urine. Those constituents have remained in their elementary form in the system, and their presence has given rise to vitiated fluids, especially of the blood; the valves and the nervous system, but especially the brain, are distressed thereby; and the muscular walls of the heart have suffered also from its contact with this poisoned stream, thickening of these parts and dilatation of the cavities have ensued, whilst the obstacles thereby presented to the free exit of the blood from the right chambers of this viscus through the lungs have, on the one hand, given rise to dyspnoea, and, on the other hand, to a delay in the ascent of the hepatic venous blood into the right auricle. The lobular hepatic veins will necessarily become congested, and by their distension they will impede the due circulation of portal blood, and consequently prevent the due secretion of bile from it. The mucous coat of the stomach and small intestines is now the seat of subacute inflammation; softening of this membrane, together with a depraved secretion of an acidulous tendency from its surface, ensues.

Now it must be manifest that, if the disease in question was renal at its onset, and that one has unequivocal evidence that that disease has advanced so far as to deprive the kidneys of their healthy discerning powers, we cannot reasonably anticipate that any decided benefit will follow the administration of saline or stimulating diuretics; whilst, on the other hand, if the complaint had proved to be one purely cardiac, in which the kidneys had not yet participated, that the exhibition of such diuretic remedies might have been not only judicious, but, as is often the case, of the utmost service to the patient, by the relief which they afford in unloading the system and relieving the heart of its burdensome oppression. Again, it may be observed that nothing can evidence the importance of a just diagnosis in the case now alluded to more than the assistance it affords to the use or the abuse of that valuable remedy in dropsy, elaterium. The exhibition of this drug in dropsy supervening upon simple cardiac disease is not only contra-indicated, but is likely to be followed by the most serious and fatal results. It lowers the influence of an organ already enfeebled in its powers, distressed in its action, and altered in its rhythm, so that dropsical effusion increases under its debilitating tendency, and the disease, for which it is administered as a curative measure, is promoted rather than retarded; whilst this hydragogue in renal dropsy, by its powerful operation upon the whole mucous surface of the alimentary canal, carries off a large quantity of those effete matters which the diseased kidneys have been incapacitated from doing, and the poisoned circulation has been relieved, and the oppressed heart has regained tone and vigour under the use of this remedy. Indeed, I know of no remedial agent which has been attended with so salutary and so beneficial a result as the one in question when judiciously administered, in renal dropsy; whilst I have known the most serious results to ensue from its misapplication in chronic affections of the heart.

The singular change of colour in the whole body, but especially in the face, which attends the early progress of renal disease, or rather granular degeneration of the kidney, is so marked, and is so decisive, that a physiognomist can frequently make an accurate diagnosis of the morbid condition of these organs and their secretion before he interrogates the patient about his symptoms. The pasty look, the uneasy cast of expression, the puffiness under eyelid, the bluff cheek, the thick under lip, the dirty skin, and the shining cornea, are features too significant to be mistaken by a practical observer for any other morbid change of internal

organs. There may not be doughy legs or puffy ankles; the urine may be plentiful, but it is frothy, and looks like muddy small beer; the patient is obliged to make water three or four times during the night, in consequence of the chemical alteration of this secretion, which now acts as an irritant upon the mucous surface of the bladder; his appetite, too, is capricious; he is distressed with flatulence; the alimentary canal is the seat of disease also, inasmuch as its mucous membrane always undergoes a process of softening, which coexists with the progress of the renal disease; he suffers from occasional giddiness and tightness across the forehead; his memory becomes impaired from time to time, and he tells you that he has a nauseous filthy taste on the palate when he rises in the morning; his bowels are very easily moved, and he is rather more of a relaxed habit than he was wont to be. Now, under such circumstances, the specific gravity of the urine is rarely higher than 1010, but it is found to be loaded with albumen on the addition of nitric acid, or by the application of heat; there is a very scanty amount of urea or of renal salts in it. The blood of the patient is thin, having much serum, and but little fibrine and few red globules.

ART. 27.—*Treatment of Anasarca and certain Dropsical Effusions, by Discharge of the Fluid by Cutaneous Incision.* By M. LOMBARD.

(*Gazette des Hôpitaux*, and *Dublin Medical Press*.)

[The following is the substance of a clinical lecture:]

I wish to draw your attention to the case of Hubert Simon, æt. 58. This man has come under our care for the third time. The diagnosis on his admission was "considerable hypertrophy of the heart, with contraction of the aortic opening." It is for the anasarca dependent on this disease of the heart that he has each time applied for relief, and by bleeding and the exhibition of diuretics it has always been afforded. This time, however, these remedies have been less successful. Diuretics gave no relief, though pushed to large doses, and hydragogue cathartics failed equally, although they produced abundant watery stools. The anasarca and dyspnoea increased daily, the latter advancing to orthopnoea. The limbs acquired an enormous magnitude; the infiltration extended even to the eyelids, and while in the former attacks we had only to deal with anasarca, the abdominal cavity now became filled with fluid. Such has been his state for the last three months, and you were convinced that without the means last employed he could not have survived many days.

I have long since drawn your attention to the evacuation of serous collections by openings made in the skin; but I wished that the number of cases observed should impress on you that it is a remedy at present too much neglected by practitioners, proscribed by some, and often improperly employed; but which may be of the greatest service either in curing or palliating one of the severest and most common diseases, usually, it is true, only consecutive, but still frequently causing death, even when the original disease, of which it is a symptom, would have granted the patient a more lengthened term of life.

This is the fourth time that you have seen the ascites disappear along with the anasarca after incisions *properly* made in the skin of the lower extremities. I do not know whether this fact has been before observed. The observations we have made show that *sometimes* the ascites remains, and *sometimes* disappears. We may lay it down as a rule, that the ascites disappears with the anasarca when it is consecutive to it, and does not depend on abdominal disease, except in the case of aneurism of the abdominal aorta, which comes under the law just laid down. I think that further observations will authorize us in ranging under the law which governs dropsy depending on diseases of the circulating system, that which comes on in cases of albuminous urine, in anæmia, and the different cachectic conditions which are the result either of an alteration of the blood or of general causes; but the number I have already collected does not appear sufficient to establish it as yet.

I insist upon the circumstance of the disappearance of the abdominal effusion, because, as I have already said, that the fact, if it has been observed, has been

considered merely as an unusual case, without perceiving that it is a general fact; and also because, in several cases, where I proposed the removal of the serum by incisions, the proposal was rejected as dangerous, and not capable of affecting the ascites. You have been able to assure yourselves that these incisions are by no means dangerous, and that they have the power of removing the ascites along with the anasarca.

"Why," you will say, "if it is true that certain forms of dropsy disappear after puncturing the legs, is paracentesis always performed?" The answer is easy; because it is not generally known that this may occur, and if such cases have been observed, they have been considered as exceptions. Perhaps, also, those who have tried this method have employed it where the original disease was in the abdomen, and consequently without success. They have not examined if the anasarca has preceded the ascites, which is indispensable for the success of the operation. Further, I have observed a curious case connected, I think, with those before us. It was a case of hydrothorax with anasarca, which disappeared after the evacuation of the serum by incisions in the legs, although it had previously resisted active treatment. In this case the pleuræ became filled during the progress of anasarca dependent on disease of the heart.

From the earliest periods the idea of treating dropsies by openings in the skin has been entertained. Nature, whose proceedings were followed by the ancients in their operations, taught them it, for anasarca sometimes disappears from natural rupture, or gangrene of the over-distended skin. It is very probable that Rondeletius who, it is said, was the first to entertain the bold and happy idea of opening the abdominal cavity to discharge the serum it contained, was led to it as well by the success of scarifications in dropsy of the cellular tissue, as by the thinning and spontaneous rupture of the umbilical cicatrix which he might have observed.

Why, then, has such an old-established and often so successful an operation been so much abandoned? The reasons are laid down in all authors—the fear of gangrene, of erysipelas, of sloughs, of troublesome ulcerations; and they resort to the operation only when all other means have failed, and the skin is on the point of tearing, and then they merely make punctures, or superficial scratches, which permit the serum to escape in a slow and incomplete manner. This seems to involve several errors. First, is the delay; when the skin has been long distended it loses its vitality, and in many cases sloughs form, when neither punctures, scarifications, blisters, cauteries, nor other means had been used which might have produced them. Secondly, the openings made are insufficient for the prompt escape of the serum, and inflame with great rapidity, causing great pain to the patient, and frequently giving rise to dangerous erysipelas.

All these disadvantages may be avoided by operating early, and instead of punctures making four or five deep incisions down to the fascia, the third of an inch in length, in each leg, in the most depending position; the patient also must be in bed as little as possible, for there he is always wet and cold, and the position is unfavourable for the escape of the serum. He should be seated in an arm-chair near the fire, the legs naked and resting on cloths; and when we have wished to ascertain the exact amount of fluid that has escaped in the twenty-four hours, we have placed them in a foot-bucket. When the serum has all drained away, the legs should be supported by a roller.

I have followed this plan for six years with perfect success in cases of anasarca; and, as I have already observed, the attending ascites has sometimes also been cured.

SECT. VII.—DISEASES OF SKIN AND CELLULAR TISSUE.

ART. 28.—On the Eruptive Diseases of the Scalp. BY DR. NELIGAN.

(Dublin Quarterly Journal, Aug. 1848.)

The author proposes the following classification of the diseases affecting the scalp:

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| 1. Inflammatory.
<i>a. Herpes capitis.</i>
<i>b. Eczema capitis.</i>
<i>c. Impetigo capitis.</i>
<i>d. Pityriasis capitis.</i> | 2. Non-inflammatory.
<i>Porrigio capitis.</i> |
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These he proceeds to describe individually.

1. *Herpes capitis.* This disease usually attacks children between the ages of three and twelve. It is rarely seen in its first stage, or that of vesicle, as it then produces little or no annoyance. When it is seen at its commencement it presents the appearance of a small ring of vesicles, without any inflammation. These soon dry up and desquamate, at the same time spreading at the circumference. In the next stage it is found that the centre, where the eruption first appeared, is thickened and covered with fine scales. As the disease advances, the hair assumes an almost pathognomonic appearance, each hair appearing slightly bent upon itself, twisted, and of a whitish colour, and readily falls out, so that bald patches begin to appear. From this appearance Mr. Erasmus Wilson calls the affection trichonosis furfuracea.

Herpes capitis is the true ringworm of the scalp. The contagious nature of this eruption has been doubted by some, but the author regards this quality to be as distinctly proved as in smallpox. *Herpes capitis* does not cause (permanent) baldness, the hair eventually growing again; thus constituting an essential difference between this disease and alopecia.

2. *Eczema capitis* is also a vesicular eruption, but it soon loses this character, and presents in its various stages so much diversity of appearance, that its diagnosis is not unattended with difficulty. The eruption is preceded by heat, tingling and itching, rapidly followed by minute vesicles, crowded in irregular patches. The vesicles usually first appear behind the ear, from whence the disease spreads rapidly, so as, in some cases, to cover the whole scalp in a week or ten days.

With the progress of the affection its appearance varies much; in some places it is only to be recognised by the exudation, which keeps the hair constantly moist; in other spots the scalp is raw or excoriated, and secretes a thin whitish pus, which dries into grayish-brown scabs, presenting cracks and fissures, through which the inflamed scalp is visible. In a third variety, the serous exudation dries rapidly into thin membranaceous scabs; and a fourth is characterised by a repeated eruption of minute patches of vesicles, which follow the course of the eruption on other parts of the body, disappearing in six or seven days, to be rapidly succeeded by a fresh outbreak.

The hair remains unaltered, excepting ulceration of the scalp has taken place; and the disease is not contagious, but has apparently a constitutional origin.

3. *Impetigo capitis* is a pustular disease. Its occurrence in children is preceded for a few days by feverish symptoms, frequently attended with vomiting. The eruption appears either in distinct pustules of a psudaceous character, scattered over the head, or in groups thickly set on an inflamed base. In either case the hair is unaltered; it is usually matted together by purulent secretions and scabs, but it does not fall off or become changed in appearance, even in the most chronic cases.

4. *Pityriasis capitis* is a squamous disease, consisting of numerous papyraceous dry scales, scattered over the head. It gives rise to much itching, which causes the individual to scratch the head, by which scales are detached in large quantity. In children, the irritation is sometimes so great, that eczematous vesicles complicate the original disease. The hair remains unaltered.

As respects the treatment of this group of the eruptive diseases of the scalp, the author observes that two principles must be laid down: first, that they are inflammatory; and, secondly, that they are constitutional. It is to the neglect of these principles that the difficulties of treating scalp diseases is to be ascribed. One general rule which the author adopts is never to shave off the hair; but he orders it to be cut close with scissors. He also forbids the use of combs.

The local remedies which he is in the habit of employing are the carbonates of soda and potash, either made into an ointment with lard, or in the form of lotion. He uses these of various strengths, according to the form of the eruption, and the greater or less degree of attendant inflammation. The carbonate of potash, being of a somewhat more irritating character, is applicable only to those cases where the inflammation is slight, as it generally is in pityriasis, and in many forms of herpes, and in the more chronic forms of eczema; but the carbonate of soda is best suited to impetigo in all its stages. The quantity of either varies from a scruple to half a drachm to the ounce of lard, to which, in private practice, a few drops of bergamot are ordered. The ointment is applied three times a day, being lightly smeared over the eruption: it is washed off with the alkaline lotion every morning. In cases where the head is covered with thick hard scales, a light linseed poultice is first applied for twelve hours; the scalp is then covered with a piece of old linen spread with the ointment, and covered with an oil-silk cap; this is allowed to remain for twelve hours more, when the scales are readily removed by washing with the alkaline lotion.

The alkaline lotions are prepared by dissolving \mathfrak{zss} or \mathfrak{zj} of carbonate of soda or potash in a pint of rose-water. This is used at least once a day, unless it is used as the only application, when it is to be employed five or six times daily.

In the chronic forms of scalp eruptions the application of a mild stimulant becomes necessary. The preparation preferred by the author is dilute citrine ointment—from half a drachm to a drachm of the officinal ointment to an ounce of lard. This is applied at bedtime, and washed off in the morning with the alkaline lotion.

In the treatment of the inflammatory division of eruptive diseases of the scalp, the author gives the yellow iodide of mercury as an alternative, in combination with hydrargyrum c. creta, and aromatic powder. To a child six years old he gives half a grain of the iodide, two grains of hydrarg. c. creta, and two grains of aromatic powder every second morning; to an older child the same quantity every morning. *In all cases the child is maintained on a strictly milk diet during the entire treatment.*

5. *Porrigio capitis*. [The plan of treatment which the author has found effectual in this obstinate malady is twofold—constitutional and local.] The constitutional remedy is the iodide of arsenic, a powerful alternative, but one which may be given with the greatest safety to a young child, its effects being duly watched. The dose for an adult is $\frac{1}{10}$ — $\frac{1}{4}$ gr., gradually increased; for a child six years old, $\frac{1}{8}$ gr. It is best given in form of pill, or, in the case of a child, in powder with aromatic powder.

The local treatment consists in *cutting* the hair close, and applying a large poultice for twelve hours. As soon as the poultice is removed, the head is well washed with the alkaline lotion, and brushed with a soft brush, the scalp is then covered with alkaline ointment on lint, which is to be renewed twice a day. After a few days, the alkaline ointment is replaced by one of the iodide of lead (\mathfrak{zss} — \mathfrak{zj}), the head being still washed every morning with the alkaline lotion.

ART. 29.—On the Treatment of Lupus by Cod-liver Oil.

By M. EMERY.

(*Revue Méd.-Chirurg.*, Août 1848.)

[The author, who is placed in a sphere of extensive observation of skin diseases, had, in common with other physicians, failed to arrest the progress of this frightful malady, when he was induced, in a remarkably severe instance, to give cod-liver oil in large doses (from a pint to a pint and a half in the day). In two months a complete cure was accomplished. Encouraged by this, he applied the same treatment to a great number of cases, commencing in all with 100

grammes (25 drachms), and quickly increasing it to 15 or 20 ounces in the day. If vomiting ensued, it was suspended for a few days, and then recommenced as before. He has treated in this matter as many as *sixty-four* cases of lupus. The majority of these received material benefit, and twenty-four were completely cured. The following cases are among several reported:]

CASE I. A female, æt. 20, of good constitution, was the subject of lupus, affecting the right ala nasi, and the upper lip and cheek of the same side. The tubercles were covered with a green scab. No advantage had been derived from any treatment until the cod-liver oil was employed, which was commenced in the dose of eight tablespoonfuls per diem. An attack of erysipelas caused the suspension of the medicine for some time, but it was resumed, and increased to fifteen tablespoonfuls per diem. In three months all the crusts had fallen, and the ulcers had cicatrized.

CASE II. On the 6th May, 1847, a woman, æt. 44, was admitted who had been the subject of lupus for twenty years. When admitted the entire nose, the upper lip, the lower eyelid, and the two cheeks were covered with thick scabs, which surrounded extensive ulcerations. She was immediately put upon a course of the oil, under which, in six months, a complete cure was effected.

[Similar testimony respecting the therapeutic powers of cod-liver oil in large doses, in lupus, is borne out by M. Devergie (*Journal de Médecine et de Chirurgie*, Juillet, 1848); but, on the other hand, the communication of M. Emery is subjected to very severe criticism in a recent number of the '*Annales de Thérapeutiques*, (Août 1848). The writer of the critique alluded to partly animadvertes upon the improbability of persuading patients to swallow a pint or two a day of so nauseous a medicine, and also upon the ruinous consequences, in a financial point of view, which must accrue to a public institution from such heroic administration of an article which costs four shillings a pint. Regarding lupus as a form of scrofula, we do not dispute the advantages to be derived from the use of the oil, but at the same time we believe that all the benefit to be derived may be anticipated from a far more moderate quantity than M. Emery's patients were made to swallow.]

ART. 30.—*Diagnostic Characters of Secondary Syphilitic Eruptions.* By M. RICORD. —In the first place, they present, on the whole, the same characters as common eruptions; they are either composed of vesicles, papules, pustules, &c. In this respect the diagnosis is entirely guided by ordinary rules; but there are means of ascertaining the specific nature of the eruption. To do this, we must study the precedents of the case, in order to fix upon the accident which has been the fountain-head of the mischief; namely, the indurated chancre. We inquire whether the patient has or has not had suppurating buboes: whether he has suffered from obstructed glands, without suppuration; we try to find out whether there are still traces of adenitis, either on the posterior part of the neck, or in other regions. In this manner we often reascend from one accident to the other, until we reach the very outset of the disease, unless a mercurial treatment has intervened; for in such a case the chain and succession of symptoms is interrupted. Syphilitic eruptions, which you will bear in mind can never spring up spontaneously, viz. without the existence of a primary accident, are not preceded by any febrile phenomena; the eruption may be said to be apyretic, indolent, involving in a very short time the whole body, and appearing, in some degree, by successive instalments. They do not, as has been asserted, affect the face in preference to any other part, but they spread indistinctly all over the frame. The smell which they have been supposed to emit is far from being a specific one; in fact, there is none at all, except when the suppuration is very abundant, or when the eruption includes parts where it causes a muco-purulent secretion, as, for instance, mucous papules or patches do; but I repeat it, there is nothing specific in the smell, nor is the copper colour mentioned by Swediaur, or the ham-like hue spoken of by Fallopius (which latter has been with reason looked upon as an important sign), an absolute and constant character. In the secondary exanthematous eruptions, which generally come on in the earlier period, there is as much redness as with the common exanthemata, and no alteration in the cutaneous pigment is yet observable: so that no reliance can be put on the colour, and it often happens that men, accustomed to treat skin diseases, mistake simple eruptions for syphilitic

exanthemata. At first the redness is a mere congestion, which readily disappears under the finger: a little later it becomes an actual stain, on which pressure has no effect. These purplish-brown stains are also met with in psoriasis, in lepra, and in other diseases; but they generally are surrounded by a much darker areola in secondary syphilis than in any other affection. The *seat* of the cutaneous manifestations is not of much value as to the diagnosis; for they may spring up anywhere, as well on the genital organs as in other places; and you recollect, no doubt, that I mentioned before, that they sometimes simulate a primary sore. Nothing, in fact, resembles more an indurated chancre than an ulcerated mucous tubercle, seated on the thickness of the skin or mucous membrane, particularly when it happens to be solitary, and to be placed on the generative organs. As to shape, you will find that secondary eruptions generally present rounded and well-defined patches, the colour of which may in the centre be more or less deep. When the disease is of some standing, they will form distinct groups, which assume the annular or the crescentic form; also, that of the figure 8. When they take the shape of segments of circle, they are more defined than in common eruptions. Secondary cutaneous manifestations have very little tendency to suppuration, unless the subject be constitutionally predisposed to pyogeny, and when matter *does* form, it is generally small in quantity, and far from laudable in its nature. The eruptions which do not suppurate will in time disappear altogether, and thus terminate by resolution or desquamation. The scales in these cases are less brilliant, and thinner: they dry more quickly, fall off more frequently in a furfuraceous form, than in unspecific affections, and the scales sometimes come off in large shell-like pieces. Syphilitic patches sometimes get covered with crusts of various dimensions, and of a dark-greenish or blackish hue; their surface is cracked and broken, and generally thicker than in common eruptions. These crusts are sometimes so adhering, that they remain fixed on the spot, notwithstanding cicatrization: they are, in some degree, grooved in the scar, and in some cases the crust is loosened by gradually turning up at the margins as the cicatrix is progressing from the circumference to the centre, and it finally falls off when cicatrization is complete. In cachectic subjects there is much tendency to frequent hemorrhage.

The crusts sometimes accumulate, layer after layer, and form distinct prominences, which constitute the affection known under the name of rupia. When, by the falling of the crust, the ulceration becomes apparent, it assumes generally a rounded form; its fundus is grayish and pultaceous: it is surrounded by a darkish areola, and there is a certain induration in the margins. The tendency to phagedæna is rare, but still it does sometimes happen that these ulcerations make great havoc by extending very rapidly. Bear in mind that secondary syphilitic ulcers cannot spring up spontaneously, as it were: they are always preceded by some eruption, as ecthyma, rupia, papules, or tubercles; such ulcers rarely follow vesicles or psudaceous pustules. One of the most important characters of secondary eruptions (which, indeed, I ought to have mentioned sooner) is a total absence of pruritus, whereas itching is a very frequent symptom of the other kinds of eruptions. When, however, the syphilitic rash includes naturally prurigenous regions, as the anus, the genito-crural fold, the axilla, &c., there may be a good deal of itching, but the latter is then produced more by the irritative properties of the secretion than by the eruption itself.

The cicatrices left after secondary eruptions are very peculiar in one respect, viz., they may exist without any previous abrasion of surface; this is more especially the case in the papular and tuberculous forms. It seems that, in such cases, a plastic effusion takes place, and causes a certain hardness of the part: when this fibrinous secretion becomes absorbed, a regular cicatrix ensues, and may be looked upon as the result of a kind of atrophy, or falling in of the textures, brought about by an obliteration of the vessels. Secondary syphilitic cicatrices are generally round, purplish, and arborescent: afterwards they are whiter and depressed. They are simulated by the cicatrices after friction with tartar emetic, &c., and are, therefore, not unmistakeable. To sum up; we cannot rely on any absolute character or diagnostic of venereal eruptions; we must take this history into account. The most constant character is the absence of pruritus, next to this the copper colour.

ART. 31.—*Treatment of Acne Rosacea*.—M. Campardon adopts the following system: Having restored any deviation from health in the digestive organs, the patient takes tartar emetic in the dose of $\frac{1}{16}$ grain with three grains of the powder of dulcamara every morning, fasting. Nausea, which is sometimes excited at first, soon subsides, and tolerance is effected. The medicine appears to act as a depresser of the power of capillary circulation, and, under its influence, the redness of the skin soon diminishes. The face is also washed with lime-water, or a weak lotion of the bichloride of mercury. If acne rosacea be complicated with acne indurata, the author advises an ointment of the chloride of silver to be rubbed on each tubercle. If the disease proves rebellious, he substitutes friction with an ointment of cantharides, so as to induce inflammation. When this is established, he applies leeches and cold lotion, and on its subsidence the tubercles will be found to have subsided.

Encyclog. Médicale, Mai 1848.

ART. 32.—*Arsenic in Furunculus and Acne*.—Dr. Schweich has prescribed arsenic with great success for some time past in furunculus, and has found the cure very durable. He begins with four drops of Fowler's solution twice a day, until a drachm has been taken; he then increases to five drops and six drops in the same manner. Acne yields to arsenic with the same readiness. He condemns the use of purgatives in both these affections.

Casper's Wochenschrift and *Brit. and For. Rev.*, Oct. 1848.

PART II.

SURGERY.

SECT. I.—SYMPTOMATOLOGY AND DIAGNOSIS OF SURGICAL DISEASES.

ART. 33.—*Diagnosis of Incomplete Fractures.* By M. DEBROU.—M. Debrou, relating a case of fissured fracture of the lower end of the femur, which was undetected during life, observes that while the obscurity of these cases, owing to the absence of crepitus, and all the usual symptoms, renders detection difficult, it is very important for the patient that this should be effected, else he is not placed under restrictions as to the motion of his limb, which are essential to his well-doing, inasmuch as incaution in this respect has led to the development of inflammation, which has terminated in death, or the loss of the limb. *Severe pain* at the seat of the fracture, distinguishable from the more diffused, less fixed, and less intense pain of the accompanying contusion, is one of the best signs. If the indication furnished by this is overlooked or inappreciable, and the limb is not secured, another sign manifests itself, viz: *erysipelas arising at the very seat of fracture*, thus developing itself after the inflammation depending on the contusion had subsided. This erysipelas is accompanied, too, by an œdematous, or pasty feeling, of the part. The delay, (perhaps several days) in the appearance of this form of erysipelas arises from the inflammation first occurring among the soft parts around the bone, and spreading from within outwards, inversely to its usual course, it being, in fact, but a symptom of the suppuration which is going on between the bone and the muscles.

Archives Générales, tom. xvi.

ART. 34.—*Diagnosis of Injuries to Tendons and Ligaments.*—In those slight injuries which are commonly called sprains, there has appeared to me to be a difference between injury done to a tendon and that to a ligament. The injury occasioned by a trip in running down stairs, either affects the external ligaments of the ankle-joint, or of the tendons of the peronei muscles, the brevis usually. In the case of the ligaments being injured, there is usually no effusion of blood, and a considerable time is required for getting rid of the pain on moving, particularly if the parts are put on the stretch by using the limb too early: but when a tendon is sprained, there is generally a little blood thrown out into its sheath, and the pain may perhaps be greater than that of the ligaments at first, but by rest it is sooner removed.

Those bruises which occur to the parts of tendons or ligaments just at their insertion into bones produce long and considerable pain, and are of such a character as may lead to the suspicion that a very serious injury has been produced to the bone, or to a neighbouring joint. The insertion of the deltoid muscle into the acromion, and of the ligament of the patella into this bone, when patients in falling strike these parts, offer the most common cases of this description. These injuries cause the greatest pain and difficulty when the muscles are put in action, and the parts are often very long before they recover.

Observations on some of the Parts of Surgical Practice, p. 212, by J. P. Vincent, 1847.

ART. 35.—*Distinction between Syphilitic and Scrofulous Affections of Bone.*

By M. RICORD.

(Lancet, June 10, 1848, p. 629.)

Syphilitic Affections of Bone.

1. Very rare with young people.
2. Syphilitic precedents.
3. Compact texture of bones attacked.
4. Superficial part of the bone.
5. Little tendency to hyperostosis.
6. The pains which precede the development of the affection increase, and become very intense, until they decrease again, and entirely disappear in the latter periods of the disease.
7. A tendency to circumscription.
8. Exostosis.
9. Tendency to ossification and eburnation, but very little suppuration.
10. A chain of syphilitic symptoms, either concomitant or antecedent.
11. Rapid cure under appropriate treatment.

Scrofulous Affections of Bone.

1. Very frequent in youth.
2. Scrofulous precedents.
3. Spongy or cancellated texture of bones attacked.
4. Deep parts of the bone.
5. Much tendency to hyperostosis.
6. The tumefaction precedes the pain, but the latter soon increases, and becomes more and more intense as the disease advances.
7. A tendency to diffusion.
8. Hyperostosis.
9. Tendency to softening, to suppuration, caries, and necrosis, and not to ossification.
10. A chain of scrofulous symptoms widely differing from those of syphilis, either concomitant, or antecedent.
11. Very difficult cure, often incomplete, and sometimes impossible.

Syphilis may, however, be superadded to scrofula; we must then, in combating any lesion, endeavour to find out to which of the two diatheses it is mostly owing, and select our therapeutic means accordingly.

ART. 36.—*Diagnosis of Congenital Dislocation of the Shoulder.*

By W. R. SMITH, Esq.

Fractures and Dislocations, p. 257, by W. R. Smith, Esq., 1847.

The patients usually ascribe the deformity to injuries received during childhood, for there is a natural unwillingness to admit any original defect of organization; but, in most instances, the paralysis, upon which the deformity depends, will be found to have existed at birth.

In the instance to which I allude, the shoulder is flattened, the deltoid and scapular muscles are atrophied, and the capsular ligament is elongated. The head of the humerus can be easily pushed, either inwards or outwards, so as to permit of the glenoid cavity being felt; the whole joint is, as it were, loose; the shoulder droops, and the elongated limb may be said to dangle, rather than to hang, by the side. When the head of the humerus is pushed upwards, the appearance of luxation is removed, and the rounded form of the shoulder is, to a certain extent, restored, although, in consequence of the atrophied state of the muscles, it does not recover its natural fulness. In the true congenital luxation, however, there is superadded to the atrophy of the muscles a malformation of the bones composing the shoulder-joint.

In early life, before the bones have reached their full development, before the muscles which act upon the articulation are called to their full exertion, the outward signs of the deformity may escape observation; but when the bones of the shoulder have reached maturity, when the osseous prominences which overhang the joint stand out in relief, then it is that the characteristic features of the original luxation become strikingly apparent.

I have myself as yet ascertained, by post-mortem examination, the existence of only two varieties of this malformation. In one of these, the head of the humerus is placed beneath the coracoid process; while, in the other and more rare variety,

it is lodged in an abnormal socket, formed upon the dorsum of the scapula, below the outer and posterior part of the acromion.

They may be termed the sub-coracoid and sub-acromial congenital luxations, and may exist either upon one side only or upon both. Of the latter species I have seen only one example, but several instances of the former have come under my observation within the last few years.

SECT. II.—NATURE AND CAUSES OF SURGICAL DISEASES.

ART. 37.—*Dislocation of the Pelvis.*—[In the Sixth Volume of the 'Abstract,' p. 77, an article is introduced on "Separation of the Sacro-Iliac Symphysis," by M. Kluyskens; the following notice "On Dislocation of the Pelvis" has subsequently appeared in several of the journals:]

M. Murville, in a memoir presented to the French Academy of Medicine, on luxations of the pelvic bones, relates the two following very remarkable examples of this accident. The first was the case of an officer, who fell from a second-floor window, and lighted on the tubera ischii. The sacrum was displaced downwards by the weight of the body. On examination, the crests of the ilia were found to be almost touching the false ribs; the os coccygis, much shattered, projected considerably below. The patient complained of great pain in the sacro-iliac symphysis, with paralysis of the bladder and rectum, small pulse, and other signs of collapse. He was restored somewhat by stimulants, and when reaction was fully established, he was treated antiphlogistically, the displaced bones being maintained as motionless as possible. No attempt at reduction was considered advisable. This treatment was marvellously successful; not only did the patient survive, but the paralysis diminished, and in ten days the patient was able to walk with difficulty.

The second case is unique. An officer, during a review, was run away with, the horse, at the same time, plunging violently; in one of the plunges he was thrown considerably from his saddle, upon which he descended again with such force as to lacerate the left side of the pelvic arch, without injuring the skin. A second plunge of the animal added to the mischief, completely rupturing the ligaments of the symphysis pubis. When examined, a large inguinal hernia was discovered on the left side, and in the perineum a tumour projected as large as the fist, which could be pushed upwards into the pelvis. The symphysis pubis was separated to an extent which allowed the hand to be insinuated between the ossa pubis. The hernia was reduced, and the bones kept in apposition by bandages, and in three months the patient was able to walk. M. Murville, upon this case, founded some remarks upon the feasibility of the operation of division of the symphysis in labour. In a discussion which ensued, M. Malgaigne doubted that it was a case of simple dislocation, thinking it probable that there was also fracture.

Prov. Med. and Surg. Journal, Nov. 17, 1847.

ART. 38. *Fracture of the Ascending Branch of the Ischium and Descending Branch of the Pubis caused by Muscular Contraction.* By M. CAPPELLETTI.—A man, æt. 54, jumped from a carriage, the horses having run away, and alighted with his feet to the ground, but with one limb in the greatest possible degree of abduction. A surgeon, who saw him immediately, found an enormous swelling at the superior part of the thigh, accompanied with very acute pain, requiring local and general antiphlogistic treatment. After some time he continued his journey, although not recovered. When M. Cappelletti saw him at Trieste, six months had elapsed, and he recognised the following symptoms:—slight swelling at the internal superior part of the right thigh: on exploring this region the patient experienced acute pain, which was renewed by pressure on the tuberosity of the ischium; a moveable osseous body, two inches and a half long, and the size of the finger, could be felt. The patient walked limping, and with pain, and the pain was increased on abduction.

It soon occurred to the author that the loose bone consisted of a part of the ramus of the ischium and pubis detached from the pelvis by muscular contraction. On examining it anteriorly, he found this part defective, and that the loose portion of the bone had all the anatomical characters of the defective part. He felt distinctly the circular projection indicating the point where the ascending branch of the ischium unites with the descending branch of the pubis.

Giornale per servire ai Progressi della Patologia e della Terapeutica, 1847.

ART. 39.—*Cases of Strangulated Hernia, in which the stricture was occasioned by a Band of Lymph effused from the Serous Coat of the Intestine, surrounding and constricting it as by a ligature.* By Dr. PIRRIE, Regius Professor of Surgery in Marischal College, Aberdeen.

(Condensed from *The Monthly Journal of Medical Science*, 1848 ; p. 770.)

The first case was that of a female, about 60 years of age, of a full habit of body, and the subject of a strangulated umbilical rupture. Her medical attendant, a surgeon of long standing in Aberdeen, found it necessary to have recourse to an operation, and of that I was a witness. The hernia returned very suddenly as soon as the margin of the umbilicus was slightly divided ; but the symptoms of strangulation continued, and the patient died in ten hours after the operation. I was requested to conduct the post-mortem examination ; and, on opening the abdomen, found behind the umbilicus a swelling about the size of a small orange, formed of intestine, with a neck, surrounded by a band of lymph, which embraced and constricted the part as by a cord. The lymph had been effused from the serous coat of the intestine, in consequence of the inflammation excited by the pressure of the margin of the umbilicus. In this case the hernia was returned, but without the stricture having been divided.

The second case was that of a female, a patient of my own, about the middle period of life, on whom I had occasion, with the assistance of Mr. Paterson, surgeon in Aberdeen, to perform the operation for strangulated femoral hernia. On carrying up the point of my finger between the hernia and hernial sac to feel for the stricture, I was struck with the circumstance, that the tightness of what I supposed to be the stricture bore no ratio to the extreme urgency of the symptoms of strangulation ; and that, after dividing some of Poupert's ligament, by cutting from within the hernial sac, the intestine, on being gently pressed, still remained as tense as formerly, and its contents did not seem to be moved by the pressure. I therefore examined the neck of the hernia with my finger, and perceived a band of lymph, keeping the part tightly constricted, and, in short, constituting the stricture. I gently drew down the intestine, and cut the band in several different parts, when the contents of the intestine could be easily made to move upwards. On being satisfied that all constriction was removed by dividing the band of lymph in various parts, the intestine was returned into the abdomen, and the patient recovered without an unfavourable symptom. If the hernia had been returned without this band of lymph having been discovered and divided, the object of the operation would have been unaccomplished.

The third case was that of a female, about 60 years of age, of a remarkably full habit, and who, about two days before I saw her, had been seized with symptoms of strangulation. When I first saw her the abdomen was tympanitic to a great degree ; the vomiting was most distressing ; the bowels had not been moved for five days : and she had every symptom of sinking very rapidly. She stated that she had often, on previous occasions, had attacks of what she believed to be colic, and imagined at first that the illness from which she was suffering was only a return of that disorder, and, consequently, anticipated a speedy recovery. I was also informed that, for a considerable time, she had had a disagreeable feeling of tenseness in her left groin, though without swelling, so far as she could perceive ; and that, some hours before I was called, while drawing up her limbs in a fit of retching, she felt, to use her own expression, as if something had given way in her groin, and from that moment was relieved from all feeling of tenseness. The symptoms of strangulation, however, continued. I made a most minute examination of all the usual seats of hernia, but could detect no symptom of such a lesion. I requested my colleague, Professor Macrobain, to attend the patient along with

me, which he did; and he was also present at the post-mortem examination. On opening the abdomen, there was at its under part a small tumour of intestine seen, before any parts had been disturbed beyond merely turning down the abdominal parietes. It was of a livid colour, about the size of a walnut, and with a narrow neck, tightly embraced by a band of lymph, by which it was so constricted as to make it difficult to pass a probe from that part of the intestine which led to the swelling, into that which constituted the tumour. The intestine was also twisted over itself in the form of a loop. On examining the femoral canal of the left side, a hernial sac was found in it; and the tumour of the intestine had, no doubt, formed a hernia, but returned of itself. The stricture, however, formed by a band of lymph, still remained. Sir Astley Cooper records a case in which Mr. Weston returned a hernia by the taxis without an operation; but the symptoms of strangulation continued, and it was found that the stricture was caused by a band of lymph, which embraced the intestine. In the instance of my patient, the hernia returned without any assistance.

The fourth case was that of a female, whom I had never seen during life; but at the post-mortem examination of whose body I was present, in consequence of the request of a medical man who had seen her a short time before death, and who had also often attended her on previous occasions, when in a state of great suffering from disease of the womb. The symptoms, I was informed, were those usually induced by a strangulated hernia: but the medical man could not detect any swelling in any of the usual seats of hernia. On examining the left groin, before opening the abdomen, I thought I felt a very small swelling, which I suspected to be a hernia; and I therefore made a careful dissection of the parts, in presence of the surgeon, who requested me to do so, and one of my pupils. On cutting through Poupart's ligament from before backwards, the contents of a small hernial sac returned into the abdomen without being touched, and were found to consist of intestine strangulated by a band of lymph, embracing the neck of a small hernia. The hernia was not much larger than a walnut. If it had been discovered during life, and been made the subject of operation, there would have been great risk of its returning into the abdomen without the real stricture being discovered or divided.—(Vide Report on Surgery in the present Volume.)

ART. 40.—*The Pathological Sequences of Myringitis.*

By JAMES MERCER, M.D., F.R.C.S.E.

(Condensed from *The Monthly Journal*, March 1848; p. 647.)

The pathological sequences which result from myringitis are very numerous, and by far the greater proportion of them are commonly fatal. I have endeavoured to arrange these as simply and connectedly as the history, progress, and relative terminations of them enabled me to do; and of these I would enumerate the following list, which I have been able to glean from the records of science, or have seen in my own experience:

I. *Caries of the Parietes of the Tympanum producing Meningitis, without Destruction of the Petrous Portion of the Temporal Bone.*

The pathological connexion between the existence of diseases of the middle ear and those of the membranes and substance of the brain was for a long period unnoticed: it was not until within the last thirty years that special attention was directed to them. The merit of the first improvement in this department of medicine is undoubtedly due to the late Dr. John Abercrombie, so early as 1821. But even at this early period Dr. Abercrombie did not press this important fact so forcibly on the profession as his subsequent experience enabled him to do; for in his case of meningitis of the cerebellum (Case 15th, Ed. 2d, 1829), that proved fatal in 1821, the patient had laboured under all those symptoms which usually attend, and are characteristic of, acute myringitis, and had also a discharge of purulent matter from the left ear very early in the disease. On inspection of the brain, it was found all healthy but the left lobe of the cerebellum. There, on its outer surface, was formed a uniform deposit of thick puriform matter, most

abundant on the left side. The pia mater of the cerebellum was highly vascular; the dura mater was healthy; there was some purulent matter about the pituitary gland, and in the cavity of the middle ear, but *there was no appearance of disease of the bones connected with the ear, or of the dura mater covering them.*

This case we look upon as the most simple form, considering the pathological results, of the more extensive ravages which accompany, and are produced by, acute myringitis. It is well known to all practical aurists that, in every case of acute myringitis, considerable morbid changes always result to the parietes of the cavity of the middle ear, and no discharge of pus can take place from this cavity until the integrity of the membrana tympani becomes destroyed. It is unfortunate that no special account of the actual state of the parietes of the cavity of the middle ear has been recorded in the above-quoted case, farther than that "there was some purulent matter in the ear." Had the parietes of the cavity been more carefully examined, a greater extent of disease might have been detected. It is also well known that, if a person has once suffered from acute myringitis, and that this has been more or less successfully relieved—that so long as any purulent discharge takes place from the external ear—the disease still exists in a chronic form; but if the patient becomes exposed to the influence of those agencies capable of reproducing the disease, it usually returns with all the force of an original attack.

I am inclined, therefore, to view this case as one of myringitis; and it is also further interesting in showing that disease of the membranes, or the substance of the brain, may result from diseases of the cavity of the middle ear, and without any destruction of the petrous portion of the temporal bone.

II. *Caries of the Parietes of the Tympanum, producing Meningitis, or Cerebritis, in consequence of Destruction of the Osseous Septum between its Cavity and that of the Cranium.*

This is of more frequent occurrence than the former variety, and is generally a very deceitful and insidious, but a most dangerous, affection. It commences with all the symptoms of simple inflammation of the membrana tympani, or those of its more complicated form, myringitis; and many so affected consider it for a time as a trifling earache. If a discharge of matter takes place from the ear, it is expected that the pain will be relieved; but, on the contrary, it becomes more and more violent. The general course of such cases is, that the patient becomes drowsy and oppressed; delirium supervenes; shiverings; singultus and subsultus tendinum; and ultimately complete coma. It is, also, not uncommonly found to occur in cases where acid lotions have been employed to check suddenly the purulent discharge from the cavity of the tympanum, without any other counter-irritation having been adopted to prevent the occurrence of inflammation of the brain. In these cases the patient, after complaining for a day or two of having had deep-seated and very acute pain, especially during the night, in the ear, and along the face or side of the neck, suddenly becomes restless and forgetful—lies rolling his head from side to side, tossing about his arms, and in a short time sinks into coma.

In both of these forms the petrous portion of the temporal bone will be found to be more or less destroyed.

III. *Caries of the Parietes of the Tympanum, inducing Phlebitis of the Lateral Sinus and Internal Jugular Vein.*

This is another and by no means an unfrequent termination of complicated acute tympanitic myringitis. In this class of cases, the osseous posterior septum of the mastoid cells gives way, and immediately on its occurrence the dura mater covering the diseased bone becomes diseased, presenting all the symptoms of meningitis. From the proximity of the sigmoid curve of the lateral sinus along the cranial surface of the mastoid cells, the lining membrane of the vein becomes speedily inflamed, and, extending rapidly along it to the heart, forms a fatal phlebitis of the internal jugular vein.

The following case in the Report of the Dublin Pathological Society, vol. xix,

is one of the most interesting examples of this form of the disease in the records of medicine.

A boy, æt. 16, entered the Hardwicke Hospital, in Dublin, May 27th, 1840, under the care of Mr. R. W. Smith. He had been exposed to the greatest hardships and laborious exertions from his earliest youth. He had been ill for seven days previous to his entrance into the hospital; complained of shiverings, and a cold creeping sensation, succeeded by intense pain in the right ear and right side of the face. He had had nausea and vomiting, with loss of appetite; was constantly drowsy, and prevented from sleeping by a loud noise in his ear.

After remaining under medical treatment for a short time he left the hospital and resumed his work, but was soon obliged to discontinue it, from the debility and occasional syncope with which he was overpowered. When he was again admitted he could not walk steadily; but he had no spasmodic or irregular action of the muscles, but he staggered from vertigo; he was thin and pale and had a vacant stare, with large and equally dilated pupils; his answers to questions were slowly but rationally given; he complained of severe shooting pains through the back part of his head into the right ear, from which flowed a greenish fetid matter; his tongue was white and moist; his pulse 132, sharp and small; and his skin was hot.

He grew rapidly worse after his admission; he slept but little, started frequently from his sleep, moaning from the acute pain in his right ear; whenever he attempted to rise, he supported his head with his hands, and was sensible of a noise in his head like the splashing of water; there was a sense of fluctuation and great tenderness over the mastoid process; a teaspoonful of fetid pus was given exit by incision, and the bone was found denuded of its periosteum; he had great epigastric tenderness and ardent thirst.

Upon the 3d of June he had a jaundiced hue, and an attack of diarrhœa with tenesmus; he had also a distressing cough, and severe pain along the right side of the neck. Upon the 6th, symptoms of arachnitis set in; violent darting pain in the head, alternations of heats and chills; a rapid pulse; delirium; dilated and irregular pupils; vomiting; occasional singultus; he was restless; burning heat of scalp, and cold extremities; he soon became comatose, ceased to answer questions rationally, and died June 11th.

Examination of the head.—The brain was firm, the left hemisphere pale; the right highly vascular in the interior, and the membrane covering it minutely injected with blood, especially along its inferior surface. Three small purulent deposits surrounded by a vascular circle, and apparently encysted, were found at the inferior surface of the right lobe of the cerebellum, where it corresponded to the lateral sinus. The dura mater was separated, by pus and lymph of a green colour, from the anterior surface of the petrous portion of the temporal bone; but there was no perforation of the membrane. Over that portion of bone which constitutes the superior wall of the tympanum it was elevated into a small tumour by a collection of fetid matter, and presented a sloughy aspect. The portion of bone corresponding to this abscess, of a circular form, from about one-fourth of an inch in diameter, was dead, and of a dull white colour. The process of separation from the living bone was far advanced, and at one point of its origin the separation was complete, and the aperture thus formed communicated with the cavity of the tympanum; the remainder of the petrous portion was remarkable for its vascularity; the membrana tympanum had disappeared completely, and the membranous walls of the right lateral sinus, throughout the whole of the mastoid portion of its course, were much thickened, and the lining membrane of the vessel presented a sloughy appearance, being covered with lymph of a greenish hue, and smeared with unhealthy purulent matter. This condition extended along the internal jugular vein and superior vena cava, to within a short distance of the entrance of the latter vessel to the right auricle. The lining membrane of the vena cava was of a dead tawny colour.

IV. *Caries of the Parietes of the Tympanum; Necrosis of the petrous portion of the Temporal Bone; destruction of the Portio Dura in the Aqueductus Fallopii, producing Paralysis of the Muscles of the Face.*

This form of complication with myringitis is of comparative rarity, and with the exception of two cases, accidentally mentioned by Dr. Abercrombie, there is only another complete case on record, and reported by Dr. R. Graves in the Dublin Journal, vol. xx. I have met with one case also in my own experience; but it was complicated with loss of sensation (anæsthesia) of the face, and which I will notice in the next section.

The case of Dr. Graves is as follows:—

A boy, about ten years of age, was admitted into the Meath Hospital, labouring under general dropsy; he appeared of a scrofulous habit, and was much worn down by long-continued diarrhœa. Under treatment his symptoms slowly disappeared. We now observed that the right side of the face was paralysed, and that he had been subject to a discharge from the right ear for seven years previously. The paralysed cheek presented the phenomena usually observed in Bell's paralysis. He was attacked soon after with acute pain in the ear, and in the left side of the head. A fortnight after, convulsions set in; the pain moved from the side to the back of the head, then to the back of the neck, and ultimately extended the whole way down the spine, and about this period the diarrhœa diminished. A few days before his death he was attacked with spasms resembling those of tetanus, and the surface of the body became exquisitely tender to the touch. He never had any loss of motion, and to the last his intellect was perfect. From the period when the pain set in to that of his death the convulsions returned six times.

Post-mortem.—The portio dura was found healthy, the nerve was also healthy from its origin at the base of the brain to the entrance into the meatus auditorius internus. Immediately above this opening the dura mater was of a greenish colour, detached from the bone as if by fluid, and perforated by a round hole, large enough to admit a small crow-quill. On dividing this part of the membrane, the space between it and the bone was occupied by a thick greenish, offensive pus, and the opening in the dura mater was observed to be opposite to the foramen in the petrous portion of the temporal bones, called the *aqueductus vestibuli*. This opening was much enlarged, and the bone of it was in a carious condition.

The nerves at the base of the brain were bathed in this thick green pus, but the organ itself was everywhere healthy and free from excess of vascularity. The arachnoid was thickened and opaque, and the pia mater not more injected than natural. The ventricles were not distended. The theca vertebralis was much distended by the same kind of matter, which flowed abundantly from any accidental puncture of the membrane. The matter was contained in the sac of the arachnoid, which membrane was quite healthy, and presented its usual glistening appearance; no thickening or opacity in any part of its extent. The pia mater was also free from disease; all the attachments of the ligamentum dentatum remained unbroken. The spinal cord, on being slit up, presented no trace of disease. The roots of all the spinal nerves from the base of the brain were bathed in pus, the presence of which fluid on the surface of the brain and spinal cord had, no doubt, irritated those organs, and occasioned the tetanic symptoms and the cutaneous tenderness. The portio dura was traced through the aqueductus Fallopii, about a quarter of an inch from its entrance; the nerve was completely cut through, and the petrous portion of the bone was extensively destroyed, and presented a mere shell. The membrana tympani and all the internal ear were completely destroyed.

It may be further mentioned here that the spot where the portio dura was cut through corresponds exactly to the point where the great petrosal, or vidian nerve, joins the portio dura, and forms the intumescencia gangliiformis.

I shall now proceed to consider the fifth section of cases, which, when they do occur in practice, are usually complicated with those of the fourth; viz: paralysis of sensation in one-half of the face—*anæsthesia*.

V. *Caries of the Parietes of the Tympanum; Necrosis of the petrous portion of the Temporal Bones; destruction of the Gasserian Ganglion, producing Paralysis of Sensation in one-half of the Face.*

When we find paralysis and distortion of the face, with loss of sensation of the parts, we have reason to suspect disease within the head, even without the existence of any active morbid action in the cavity of the ear. These cases have been referred to by the late Dr. Abercrombie in his section on diseases of the nerves; but he has not favoured us with any cases of anæsthesia of the face produced by the previous existence of myringitis. His cases, however, are of great importance, and relate entirely to those of paralysis and anæsthesia consequent on some morbid state of the membranes surrounding the exit of the nerves from the cranial cavity in the substance of the brain at their points of origin or emanation, or in some parts of their course for distribution. The symptoms of such cases are from those of the special case in connexion with myringitis, which I shall relate, in every respect similar to those described by Dr. Abercrombie. The case is as follows:—A young girl, seven years of age, and of a strumous habit of body, became afflicted with scarlatina anginosa in the summer of 1843. She was the daughter of a travelling gipsy, and resided in a wretched hovel in one of the filthiest alleys in the south side of the town. I was called to see her in the course of one of my dispensary visits. It was on the sixth day of attack when I first saw her. The cutaneous eruption, which had evidently been very dark, was almost gone; there was great difficulty in breathing; a hoarse voice, sneezing, cough without expectoration and an occasional slight hemorrhage from the nose. The surface of the tongue and insides of the cheeks were covered with numerous aphthæ; the tonsils were much swelled, but there was no evidence of decided gangrene, though there was considerable superficial ulceration on both sides. The child was delirious, and had been so for twenty hours, screaming wildly, and instinctively putting her hands to her right ear, the right side of her face, and neck. When she was coherent, she complained to her mother of a severe pain coming on in these parts; and when I attempted to examine her ear, she instinctively indicated severe agony, and tried to thrust away my hand. A discharge of matter had taken place from the right ear four hours before I saw her; but the symptoms showed no relief. On examining the mastoid process, it was larger than usual, discoloured, and had a slight feeling of softening and pitting. An incision made into it gave exit to a full teaspoonful of very fetid pus; but none of the small bones, or any gritty particles, could then be found in the discharged matter, or in that coming from the outer ear. A large warm linseed-meal poultice was applied to the right ear and side of the face; two grains of calomel, and three grains of Dover's powder, were ordered to be given every four hours, and, in the intervals, a teaspoonful of weak wine and water.

On the morning of the second day there had been a decided increase of all the cerebral symptoms; the wine and water had been swallowed with difficulty, and part of it ejected again. A small enema of ol. terebinth. and gruel, that had been exhibited the previous night, had operated well in emptying the bowels. The discharge still continued, both from the outer ear and the incision in the mastoid process, and, on examining the concha, I found the malleus and incus bones, with the stapes attached to the latter, there amongst the discharge. Several gritty pieces of bone were also picked out from that of the mastoid process; and I fully concluded that complete destruction of the ear bulb had taken place, and that necrosis of the petrous portion of the bone would follow. No palsy of the muscles of the face as yet, but difficulty in swallowing. The eyeball appeared larger than before, and had a dull look. A feather gently rubbed upon it still gave sensation by a sluggish twinkling of the eyelids. Continued the medicines.

At six o'clock P. M. that day I again called, and found the cerebral symptoms the same. There was more incoherence, and extreme restlessness; she tossed about her hands and legs, and whilst I was present she had a short convulsion. There was now distinct paralysis of the muscles of the face; greater difficulty in swallowing; the eyeball appeared still larger, and seemed to be starting from the orbit. It had become deeply congested, and was quite insensible to the irritation of the feather. The skin of the right side of the face might be pierced or pricked,

but no sensation was evinced. The inside of the same cheek was in a similar state. I rubbed a little strong salt along the inside of the right cheek, and along the right side of the tongue, but no evidence of any sapid body being there was shown, and a similar result followed the giving of a little powdered colocynth. On the left side of the face, however, there was distinctive evidence of sensibility remaining, both to pricking, salt, and colocynth; and the eyeball there was also fully sensitive, and apparently healthy. There was a slight fetid and bloody discharge from the right nostril. On examining the aperture of the mastoid I found a spongy-looking mass of bone impacted in the incision there. This I carefully removed by a slight enlargement of the opening, (the mastoid bone was very soft and easily cut,) and removed a greater part of the mass of the petrous portion of the temporal bone. I then bathed the ear very gently with a sponge saturated with tepid water; gave her a little pure wine, and ordered a beef-tea enema. All the symptoms, as I left, were gradually increasing in severity.

On washing carefully this necrosed portion of bone, I found it still to possess the conformation of the natural bone; its substance, however, was converted into a spongy mass, and the osseous labyrinth of the ear-bulb formed but a general part of the cancellated structure in it. Early on the third morning I found that, shortly after I left, the convulsions came on with great frequency and violence; shiverings repeatedly; singultus, and ultimately coma, and death about four o'clock A. M. A dissection was granted.

Post-mortem appearances.—To be careful in our examination, we succeeded in securing the entire head, stuffing up its place neatly, and leaving it apparently entire. On removing the calvarium and the dura mater corresponding to it, we found but a trifling sub-arachnoid effusion of opalescent lymph. No serum in the sac of the arachnoid there, but some congestion of the vessels of the pia mater on the upper surfaces of both hemispheres of the cerebrum. On slicing off these there were a few bloody points here and there, similar to those found in cases of simple congestion of the veins of the cerebral substance. The lateral ventricles contained about two drachms of serum, and the septum lucidum and fornix were much softened. The choroid plexuses were much congested. On removing the entire nervous mass, we found the dura mater covering the upper surface of the petrous portion of the temporal bone very much diseased; it was elevated, soft, and spongy, of a dullish colour, and apparently on the point of becoming gangrenous. No distinct aperture was found in it, and it was raised up softly in consequence of the cavity from which the necrosed bone had been discharged, that cavity being completely filled with pus, and, floating on its surface, we found the Gasserian ganglion in a state of perfect destruction. The facial nerve was also found destroyed at its entrance into the aqueductus Fallopii, and was found so until the lower part of the stylo-mastoid canal. The whole of the osseous labyrinth had been destroyed and discharged; the osseous portion of the Eustachian tube that opens into the cavity of the tympanum was entire, but evidently diseased, and the internal carotid artery was not affected. Had the diseased action but continued for a few hours longer, the septum between this vessel and the tympanum would have been destroyed, and the vessel would have been opened. None of the tympanic muscles, vessels, or nerves, could be found; the osseous septum between the cavity and the sigmoid groove for the lateral sinus was entire, and no effects had been produced in the jugular vein.

The inferior surface of the right middle lobe of the cerebrum, that lay upon the affected temporal bone, was highly inflamed, and much softened; there was a considerable effusion of lymph at the inner extremity of the right fissure of Sylvius, around the chiasm of the optic nerves, the tuber cinereum, the corpora albicantia, and the locus perforatus posterior, placed between the crura cerebri. The vascularity extended along the right crus cerebri to the mesocephalon, and thence by the right crus cerebelli, to its right hemisphere. To all these parts the lymph affusion was chiefly confined, and there was also some fluid in the cerebellar fossæ, the greater part of which had escaped by the removal of the head. The eyeball had not gone on to complete disorganization, but every part of its interior structures showed distinctive evidence that it was far advanced in a state of gangrene. The vitreous body, and all within the iris, were converted into one confused mass.

On dissecting the right nasal fossa and the pharynx, I found the Schneiderian membrane there in a state of extensive ulceration, not only in the general cavity, but also in all the facial cavities. The tonsils and side of the pharynx were also ulcerated; but the pharyngeal opening of the Eustachian tube, though also much ulcerated, was considerably entire. The left side was also much affected, but does not deserve a special description.

It was remarked by Dr. Abercrombie (p. 447). *loc. cit.*, "that a remarkable circumstance connected with the affections of the fifth nerve, is the tendency to inflammation and sloughing in parts which have lost their sensibility, particularly in the eye."

VI.—*Caries of the Parietes of the Tympanum: Necrosis of the petrous portion of the Temporal Bone: Opening of the internal Carotid Artery in its canal of the temporal bone, either alone, or in conjunction with the lateral sinus, or the destruction of the Gasserian Ganglion, or the Facial Nerves.*

From the pathological sequences which I have shown as resulting from the ravages of complicated acute tympanitis, it will be easily understood that the above section of cases can easily form one of their number. The situation of the internal carotid in the canal of the petrous portion of the temporal bone, is not so secure in the nature of its position, or in the thickness of its osseous defences, as to warn us that, some time or other, it will share a little in its destruction, as a sequence of myringitis similar to what has so frequently occurred to the lateral sinus, and to the fifth and seventh pairs of nerves. There are several vulnerable points in the course of the artery in the canal of the bone, and the wonder is, that not one single case of its destruction has been put on record, so far as I can find; but that it is just as liable to destruction as any of the others are, is our decided conviction.

As I cannot present a single complete case to the profession in reference to this section, I must now conclude my remarks on this subject by trusting that some more favoured observer will yet meet with such a case, and thus complete more fully the melancholy test of sequences that may follow acute tympanitis.

ART. 41.—*Summary of M. Ricord's Opinions on Venereal Diseases.*

By VICTOR DE MERIC, M. D.

(*Lancet*, June 24, 1848.)

The great class of venereal diseases comprises two very distinct orders: first, the non-virulent diseases, the type of which is blennorrhagia; the second, the virulent diseases, the type of which is chancre.

First order. The blennorrhagic affections do not taint the constitution, are not transmissible by heredity, and never yield any positive results by inoculation either on the skin or mucous membranes; they are contagious in the manner of irritants, the simple catarrho-phlegmonous discharge being the most common form.

Second order. The virulent affections owe their origin to a peculiar principle, to an ulceration which can be reproduced at will, and inoculable within a certain period. The ulceration always springs up at the very spot where the virulent matter has been implanted, and its evolution takes place in a variable space of time. The virulent effect may remain strictly local, and merely give rise to consecutive phenomena, of which the most common is the suppuration of the inguinal glands; but it may penetrate into the economy, and determine in the same a set of characteristic symptoms. The general infection of the disease is the result of an idiosyncrasy, which does not invariably exist in every individual. The most tangible phenomenon of this infection is the specific induration of the chancre. There is no such thing as a specifically indurated chancre without subsequent symptoms of constitutional syphilis. Once or twice in a hundred cases the induration may be ill defined, and pass unnoticed; but if the attention be directed to the inguinal glands (which inevitably suffer by the infection), the existence of an indurated chancre may by their state be inferred; for a bubo, consecutive to such a chancre, never suppurates specifically. There is no constitutional syphilis

without a primary local accident. When the infection has taken place we may look for the secondary manifestations within a twelvemonth. But if a mercurial treatment be used, these manifestations may be prevented, or retarded for more or less time, or perhaps for ever. When no treatment, however, has intervened, there is an admirable order in the succession of the manifestations, which is denied only by those persons who will not be convinced. Primary, consecutive, secondary, transitory, and tertiary accidents follow each other with the most perfect regularity. But, I repeat it, a treatment breaks up the order altogether. If a mercurial course has been gone through, the secondary manifestations may, under its influence, be retarded for a variable time; but it does not destroy the diathesis, and merely postpones the secondary symptoms. On the other hand, you will remember that the mercurial treatment does not prevent tertiary accidents, and these may even appear whilst the secondary symptoms are being kept off by mercury; the latter may then make their appearance *after* the tertiary accidents have disappeared, and thus the order of the manifestations may be totally inverted. Constitutional syphilis may be contracted but *once*; the diathesis can never be doubted. The diathesis persists, but the manifestations are not certain, or inevitable. This diathesis is not incompatible with health. Syphilitic cachexia is very rare. The nonvirulent affections require no specific medication; neither do the virulent primary accidents. Mercury is used for the latter only in exceptional cases, namely, where the chancre is indurated. Constitutional syphilis demands a mercurial treatment; but when the later secondary symptoms and the tertiary have come on, mercury should be abandoned, and iodide of potassium be taken up. The latter, then, is the medication *par excellence*. Whenever we have to treat any peculiar disorder or affection of the viscera, along with syphilis, we should never lose sight of the indications which belong to that intercurrent disease, and should even delay the specific medication if found necessary.

ART. 42.—*Dynamics applied to Etiology in Surgery—Fractures of the Cranium—Hernia.* By J. P. VINCENT, Esq.

(Excerpta from "Observations on some of the Parts of Surgical Practice.")

FRACTURES OF THE CRANIUM.

I. It does not follow that the impetus with which a blow is inflicted should be expended upon the part stricken. The head, as a mass, is made up of structures of various mechanical qualities; some are soft, some elastic, and some hard, with the least degree of elasticity; and in receiving the percussion the various structures may receive the effects of the blow independent of each other. We also find a difference of the injury in the same structure, arising out of the difference in the way in which any given momentum striking upon the part is compounded. Thus, in two blows, the momentum of each may be the same, although the velocity and quantity of matter may differ, if these powers are reciprocal to each other, and then the effects of the impetus may vary considerably. A velocity may be given to a common hammer that may make the momentum equal to a heavy mass moving slowly. Upon these principles it is that great varieties occur from the impetus with which blows on the head are inflicted. If the mass be small, and the velocity great, it must happen that the bone will be fractured and driven in at the part struck; on the other hand, if the mass be great but slowly moved, the impetus acts in a way that allows it to be diffused over the whole head. And in this way great violence may be done without fracturing the bone, which is usually the state in cases of severe concussion. Or the force may be expended at the base of the skull, producing fracture there, and not at the vertex, the part in which the blow may probably have been given; and it still further often happens that in the severe injuries of this kind, where there is evidence of so much internal violence having been produced, that there is no mark of injury in the scalp.

II. The breadth in which a part stricken will break must vary in proportion to the velocity of the striking body, and also to the cohesion or strickage of the matter struck, and the breadth will always be, under any circumstances, some slight degree greater than the impinging body. If the fragility of the inner table be

really greater than the outer, the former ought to be broken in the least possible degree beyond the outer.

It is too readily assumed as a fact that the inner table is always broken to a far greater extent than the outer; but if it is the case, I conceive the explanation to be this: the two tables having a given, although minute space between them, the impetus is broken into two distinct applications. The first blow upon the outer table will necessarily break it to a slightly greater space than the instrument which produces it. After this is effected, then the inner table receives the renewed impetus, which is now imparted to it by the outer table, by which this table, allowing it to have the same fragility, will be broken to a greater extent than that in which the outer was broken.

III. The direction in which the blow is given alters altogether the effects that are produced on the brain. To explain this it must be remembered that the skull makes, in all its sections, some sort of curve; and also that the contents so nearly approach to the quality of fluid, that every impetus impinged on one part will be transmitted through it in the direction in which the blow is given. If every blow were given at right angles to the tangent of any part of these curves, the effects would be transmitted to the base of the brain. But as this is not always the way they are directed, there are great differences in the effects of fractures, and also concussions, on the sensorial powers. If the blow is in such a direction that it would transmit the impulse to the base of the cranium, the cerebral symptoms will be severe; but if the direction of it transmits the impulse across the brain, then they may be very slight. It is this, I conceive, which has caused some little controversy with surgeons, whether blows on the forehead or on the occiput are the most dangerous. It is not the part stricken, but the direction in which the blow is given, that gives rise to the difference.

About a twelvemonth ago a man was brought to my ward, who had fallen down the hold of a vessel. On examination I found that there was a wound through the upper part of the temporal muscle, on the right side, with a fracture of the parietal bone above the border of the squamous plate of the temporal bone. A piece that a thumb might cover was positively forced in upon the brain, and the surface of the depressed portion was vertical; so that its pressure was from side to side, and not at all towards the base of the skull. This man, who was middle-aged, had never the least symptom expressive of injury to the cerebrum. The depressed piece ultimately became loose, and was removed.

IV. If a blow be made upon the vertex of the skull, whether by the patient falling upon this part, or by the impetus of a moving body, the force may be expended upon and lost in the elastic quality of the bones by which a vibration is produced. The effect of this is to cause a serious concussion of the brain. But if the violence is very great, so that it does not expend its force in this way, then the arched form of the parietal bones which form a cupola, and which is preserved compact by the temporal bones, transmits the impetus to the base of the cranium. In this way it is that fractures at the base of the cranium are produced; and it must be remembered that fractures often occur at the base without the least appearance of contusion or injury to the scalp.

HERNIA.

I. The walls of the abdomen must be considered as a compages of muscular structure, whose action is chiefly employed in keeping up a uniform pressure on the contents of the cavity. But whilst the walls are preserving the cylindrical form of the cavity, the diaphragm is transmitting its powers through the almost semifluid contents of the abdomen. And in the action of this large muscle we possibly may obtain those terms of a problem that shall explain the nature of the formation of hernia.

II. The figure of the diaphragm is that of an arched dome, but having a tendinous expansion in the middle, it is divided into two arches of muscular fibres. Now it is clear that if a muscular fibre takes a curved form, every point in the curve will act in the direction of the versed line to that point, or what comes to the same thing, to the perpendicular of the tangent of the point. If the curves of the diaphragm were those of a sphere, those perpendiculars would all concentrate in one point; but this not being the case, the perpendiculars will be directed

more copiously on some directions than on others: that is, the action of the muscle will be transmitted with greater force to some parts of the boundaries of the abdomen than to others, and thus determine the seat of hernia. If the chest be narrow, the direction of the accumulated impulses may fall low, as well as if the distance from the diaphragm to the pelvis be but little, and so an increased impulse may be directed to the femoral ring, accounting for the seat of hernia in females.

SECT. III.—TREATMENT OF SURGICAL DISEASES.

ART. 43.—*Gastrotomy in Cases of Obstructed Œsophagus.* By Professor SEDILLOT.
(Condensed in various European and American Journals, from the Gazette Méd. de Paris, Jan. 1847.)

The operation here proposed consists in incising the abdominal parietes opposite the anterior wall of the stomach, making an opening into the latter, and connecting the edges of this opening with the external wound, so as to form an artificial fistula, by which sustenance may be administered in cases where irremediable obstruction of the natural passage exists. Such cases, if left alone, are quite desperate, their only possible termination being death by famine; and Sédillot, therefore, holds that it is justifiable to interfere by any means which offer a chance of safety. That the operation which he proposes is not impracticable is proved by various cases (such as that of the celebrated Alexis St. Martin) in which a stomachal fistula occurred, as a consequence of accidental wounds: and also by the experiments of Blondlot on animals, in one of which he kept a dog in health two years, nourishing him by means of an artificial fistula of the kind described. Experiments of this description have also been performed by Sédillot himself with a successful result. With these facts before him, he argues that, although gastrotomy ought not to be proposed where there is a probability of life being continued for some time without interference, yet in those in which death is evidently imminent, and where there is no other resource, the surgeon ought not to hesitate about giving his patient the chance of a prolonged existence, and freedom from suffering.

If this be admitted, it is evidently of great importance to keep in view those circumstances under which obstruction of the œsophagus might render such an operation necessary. The author, therefore, enters into an elaborate review of all those lesions of the œsophagus which lead to permanent constriction of the natural passage. He gathers from pathological writers a great variety of cases, which he arranges under fifteen heads, viz:

1. Congenital absence of part of the œsophagus.
2. Stricture in consequence of tumours in the neighbourhood of the œsophagus.
3. Tumours formed between the tunics.
4. Hernia of the mucous membrane.
5. Polypi.
6. Stricture by atrophy of the tube, without appreciable lesion of its walls.
7. Atresia, from cicatrices, with loss of substance.
8. Fibrous stricture.
9. Fibrous degeneration of the muscular coat.
10. Cartilaginous stricture.
11. Osseous transformation.
12. Complete obliteration.
13. Cancerous stricture.
14. Impermeable stricture of the cardia.
15. Fatal œsophageal stricture without known cause.

The cases to which the operation is applicable, as above enumerated, appear to be referable to two divisions: the first being those cases in which the operation is performed without hope of modifying thereby the original diseased condition, and merely to prevent death by hunger; the second, comprising cases in which the original condition is susceptible of modification, and where the establishment of a new passage to the stomach either assists the cure, or prevents the further

progress of the disease. In this respect the proposed operation has a close analogy in its mode of application to the more familiar one of tracheotomy.

The principal cases to which gastrotomy is applicable, according to Sédillot, with the double purpose above mentioned, are those comprised in the fourth, seventh, and thirteenth sections of his arrangement. In the fourth series, in which the mucous membrane is thrust through the other tunics, so as to form diverticula, he holds that the constant passage of the food distending these abnormal pouches is certain to keep up the morbid lesion, and, even by dilating the pouches still further to hasten the ultimate obliteration of the normal passage; whereas, if the operation of gastrotomy be performed, there is a probability that the pouch may, in time, contract and obliterate itself. In the seventh series, comprising all the wounds and inflammatory lesions of the œsophagus, in which there is hope that the judicious employment of catheterism might ultimately restore the tube to its function, Sédillot holds that gastrotomy will often permit us to continue this treatment when otherwise the death of the patient, by inanition, would have frustrated our efforts; and he believes that, in such cases, the chances of cure will often be greatly increased by the complete rest which is obtained in the intervals of treatment for the diseased portion. Finally, in the truly cancerous lesions, where the diagnosis can be ascertained with any degree of certainty, he conceives repose of the part to be of the first consequence, as both catheterism and the passage of food through the cancerous part tend very much to the rapid progress and fatal issue of the disease; and he thinks, therefore, that gastrotomy may possibly be found to be applicable to cancerous cases at an earlier period than that at which death by inanition is imminent.

It is necessary to state that the operation has never yet been performed by Sédillot, although he so strongly advocates its performance.

ART. 44.—*Cauterization as a Remedy for Accidents resulting from Surgical Operations.*
By M. BONNET, of Lyons.

(Condensed from the *Bulletin Général de Thérapeutique*, Feb. 1848.)

Among the "accidents" or consequences of surgical operations, as amputations or the ablation of tumours, which render extensive incisions of the skin necessary,—erysipelas proceeding from the edges of the solution of continuity, step by step, over a large portion of the cutis, phlebitis and purulent absorption, abscesses in the viscera, humid gangrene and the putrefactive fermentation of substances contained in cavities imprudently opened—are not infrequently observed. Nothing in practical surgery is of deeper interest, or more imperiously demands a new investigation, since it may be stated with confidence that art is deficient in resources to counteract the greater part of these complications. Numerous facts have demonstrated to me the powers of cauterization. Practised either with nitrate of silver, potassa, chloride of zinc, or even the hot iron, according to circumstances, it arrests the progress of erysipelas, phlebitis, and humid gangrene, especially when it is applied with energy, and at the period when these lesions are still accessible to its direct action.

Struck with the results, and comparing its harmlessness with the lesions, so frequently mortal, from incision, ligature, or excision of varices, I considered that cauterization should be substituted as much as possible for all the operations which relate to varices. I developed this general principle in a memoir published in 1843, and I considered cauterization especially as a method prophylactic and curative of phlebitis and purulent absorption. The cauterization of hemorrhoids complicated with prolapse of the rectum, in the form of a ring projecting externally, was also considered in this memoir. To these results I could add new facts of another order, as the treatment of four cases of varicocele, in which the destruction of the veins by caustic resulted in complete cure without any risk; but I merely mention them as indicating the generality of the law, and I pass on to the special object of this memoir, that is to say, the study of cauterization as a means of counteracting the accidents above mentioned.

1. *Phlebitis.* For the purpose of demonstrating the utility of cauterization in inflammation of the veins, I cited, in my memoir of 1843, two orders of facts—the one relative to phlebitis the consequence of anatomical punctures; the other, to

phlebitis the consequence of bleeding. Of phlebitis from anatomical punctures, which I had then treated with the hot iron, the cases were four in number. They were all complicated with inflammation of the superficial absorbent vessels. There was enormous swelling of the forearm and arm in three cases, and of the leg and thigh in the fourth. I have only once since this period had occasion to apply the actual cautery to an anatomical puncture, acting as the point of departure of similar lesions. In this, deep cauterization of the wound carried along the course of the diseased vessels was followed by the same result as in the former cases. In the memoirs of 1843, there was but one case of phlebitis, the consequence of bleeding, treated by the actual cautery. The cellular tissue of the whole arm was in this case the seat of suppuration and gangrene. This tissue was cauterised deeply into the seat of the superficial veins. 'Le Bulletin de Thérapeutique' contains an analogous case, in which the actual cautery arrested a violent phlebitis, the consequence of bleeding in the arm.

When the inflammation is confined to a few centimetres round the punctured vein, and not attended with any sign threatening gangrene, we may content ourselves with less powerful caustics, and such as are more easily applied. We may use Vienna caustic, or caustic potassa. In a case of very painful inflammation of the foot, developed from a puncture of a vein in the foot, in bleeding, six days previously, the chloride-of-zinc paste introduced into the large opening occasioned by the bleeding, and allowed to remain for eight hours, produced an eschar fifteen millimetres in diameter, and completely limited the progress of the inflammation.

Purulent resorption. It would be the triumph of therapeutics to cure this disease, so constantly mortal, and so frequently the result of the larger operations. Aware of the power of the actual cautery to check phlebitis I naturally tried it in cases of purulent absorption. The results were not very favourable; and it is easy to understand that its efficacy must be limited, especially when the absorption follows amputation. In fact, phlebitis, which precedes and generally involves as a consequence purulent resorption, occupies the veins which accompany the arteries, or those which make an integral part of the medullary tissue of the bone. We can only reach the large extremities at the surface of the wound, and it is impossible to cauterize them in their course. When unquestionable symptoms of purulent resorption manifest themselves, pus has already formed in the interior of the viscera, as the liver and lungs, and death is an inevitable consequence.

In spite of these unfavourable conditions, deep cauterization of the wound is the only means which offers any chance of success. In five patients, whose cases are given in the memoir of 1843, three died as quickly as if the cautery had not been applied; a fourth lived three months, the wound resulting from an amputation having been deeply cauterized with chloride-of-zinc paste. He escaped the results of that dreadful disease, from which he would have perished in less than a week. The fifth case, which was cured, resulted from the ablation of a tumour from the side of the tendo Achillis.

M. Cauvière, of Marseilles, has employed the actual cautery in three cases of purulent resorption; in one of which it was completely successful. Since cauterization is the only method which has produced any satisfactory result, I advise its employment, especially at the commencement of the affection, at the period when the swelling and pain in the neighbourhood of the wound indicate that resorption is imminent. It may be done with the actual cautery, or with the chloride-of-zinc paste, which should be left in the wound from twelve to twenty hours.

In a communication to the Academy of Sciences, the 13th of September, 1847, M. Gouyon advised dressing with a solution of three grammes of nitrate of silver in thirty grammes of water. He does not give cases in support of his practice; but the very superficial cauterization thus obtained is probably not so useful as the deep cauterizations which I employ, even these being frequently insufficient to localize the disease.

Traumatic erysipelas. This kind of erysipelas must not be confounded with erysipelas from an external cause independent of an injury, from which it differs in its nature, symptoms, course, gravity, and treatment. No relation can be established between simple erysipelas and inflammation of the lymphatic ves-

sels; but frequently, from the commencement of traumatic erysipelas the skin is observed to be streaked with red lines following the direction of the lymphatics, and which subsequently uniting, give birth to well-marked erysipelas. In spontaneous erysipelas, the diseased part is insensibly blended with the healthy part, and it generally stops where it was originally developed; in traumatic erysipelas, on the contrary, a red elevation, a line of demarcation, separates the erysipelatous from the sound skin, and the evil, at first confined to the site of the wound, encroaches gradually, and frequently to a great extent, upon the healthy part. While spontaneous erysipelas is frequently accompanied with only simple œdema of the cellular tissue, mortification of this tissue is as frequent a consequence of traumatic erysipelas; and this is inevitable when traumatic erysipelas attacks the skin of the penis or scrotum. Simple erysipelas is frequently unattended with any danger; the prognosis in traumatic erysipelas is, on the contrary, always unfavourable. Its appearance when the wound is deep, leads us to apprehend the development of purulent absorption; it is attended with delirium when it occurs on the hairy scalp; and frequently, without either of these complications, it proves fatal.

The treatment of traumatic erysipelas, compared with that which is proper for the simple variety, is not less different. While emetics and divers local applications, as vinegar and water, mercurial ointment, &c., appear to produce the most marked results in the latter, which gets well in a few days under the influence of such treatment, or simply by the expectant plan, the former pursues its course in spite of internal remedies or the local applications usually resorted to. A special mode of treatment can alone arrest its progress. The object of such treatment must be to destroy as much as possible the putrid principles which may be absorbed from the surface of the wound, and to limit the erysipelas to the part which it has already invaded.

Cauterization is the only means by which we can obtain this double result, at the same time that it is the only remedy possessed of any efficacy against phlebitis and purulent absorption; it is the only useful remedy in traumatic erysipelas, which has so close a relation to those affections in its courses and intensity. It may be done with concentrated solution of nitrate of silver, or caustic potassa, applied to the surface of the wound and the affected skin, as employed by Mr. Higginbottom, and subsequently by M. Fanchou. We may use an ointment of nitrate of silver, as recommended by M. Jobert, containing four, eight, or twelve grammes of the nitrate to thirty-two of water, according to the intensity of the disease. These means will suffice in slight cases; but there is a better chance of succeeding by cauterizing the wound deeply, which is the point of departure of the erysipelas. When difficulties present themselves from the extent and depth of the wound, and the surface occupied by the erysipelas, the deep cauterization may be advantageously combined with superficial cauterization of the skin. In the cases in which the traumatic erysipelas makes rapid progress, and neither the nitrate-of-silver solution nor deep cauterization of the wound puts a stop to it, the actual cautery should be resorted to. Larrey recites two very remarkable cases of success obtained by the cautery applied in numerous spots over the erysipelatous surface, and insists on the advantages of this treatment. I have had to regret not having adopted this bold practice under many analogous circumstances.

[The principles advocated in this paper are illustrated by the following cases:]

1. Laceration of the skin of the fore-arm; traumatic erysipelas; cauterization with nitrate of silver; rapid cure.

2. Traumatic erysipelas of the hairy scalp, succeeding to the opening of an abscess; cauterization of the whole internal surface of the abscess; almost immediate cure of the erysipelas.

3. Extirpation of a scirrhus tumour of the breast, and of numerous glands in the axilla; traumatic erysipelas; cauterization of the bottom of the wound, and employment of nitrate-of-silver ointment; cure.

4. Section of the sphincter in a fissure of the anus; traumatic erysipelas; useless cauterization of the wound with chloride of zinc, and of the erysipelas with nitrate of silver: actual cautery: gangrene of the scrotum; cauterization of this part with chloride of zinc; alarming complications; cure.

ART. 45.—*A New Mode of Treating Deafness when attended by partial or entire Loss of the Membrana Tympani, associated or not with Discharge from the Ear.* By JAMES YEARSLEY, Esq.

(Excerpta from a Pamphlet forwarded to the Editor of the Half-Yearly Abstract.)

In 1841 a gentleman came from New York to consult me under the following circumstances:—He had been deaf from an early age, and on examination I found great disorganization of the drum of each ear. On my remarking this to him, he replied, "How is it, then, that, by the most simple means, I can produce in the left ear a degree of hearing quite sufficient for all ordinary purposes; in fact, so satisfied am I with the improved hearing which I can myself produce, that I only desire your assistance on behalf of the other ear." Struck by his remark, I again made a careful examination of each ear, and observing their respective conditions, I begged him to show me what he did to that ear, which I should unhesitatingly have pronounced beyond the reach of medical art. I was at once initiated into the mystery, which consisted of the insertion of a spill of paper, previously moistened at its extremity with saliva, which he introduced to the bottom of the meatus, the effect of which, he said, was "to open the ear to a great increase of hearing." This improvement would sometimes continue an hour, a day, or even a week, without requiring a repetition of the manipulation. Such an interesting fact could not fail to excite my attention, and it naturally occurred to me to try so simple a method in other cases. I did so in several which appeared to me to be identical with that of my patient, but I invariably failed. I was on the point of abandoning the idea that the remedy could ever be made available in practice, and of considering either that my American patient's case was unlike all others, or that it depended on some idiosyncrasy, when it happened that a young lady came under my care, by the recommendation of Mr. Squibb, surgeon, of Orchard-street. She was the daughter of the wealthy parents, whose anxiety for her relief was so great as to induce them to bring her to me long after I had discouraged their visits and openly expressed my inability to relieve her. She had become deaf at a very early age, after scarlatina, which had produced disorganization of the drum of each ear, and the deafness was extreme. With little expectation of success, after so many previous failures, I was induced to apply the new remedy, with some modifications upon my previous experiments. Instead of adopting my American patient's plan, it occurred to me to try the effect of *a small pellet of moistened cotton wool, gently inserted and applied at the bottom of the meatus, so as to come in contact with the small portion of membrane which still remained.* The result was astoundingly successful. On the evening of a day in which she had risen from her bed with the sad reflection that she must be for ever debarred from social converse and enjoyment, she joined the family dinner party, and heard the conversation which was going on around her with a facility that appeared to all present quite miraculous. Day after day the remedy was applied with the same marked success, and eventually she learned the art of applying it herself, and thus became independent of me. It was observed that, *until the wool could be brought in contact with a particular spot at the bottom of the meatus, the hearing was not at all benefited, on the contrary, was prejudiced; but the moment it was properly adjusted on that particular spot the hearing was restored.* Subsequent experience, in a vast number of cases, confirms this remarkable fact. It is not merely necessary to insert moistened cotton wool to the bottom of the meatus. Such a manipulation would in most cases add to the deafness. It is essential to find the spot on which to place the wool, and adjust it so as to produce the best degree of hearing of which the case may happen to be susceptible. This of course differs according to the variety and extent of the disorganization.

For nearly five years this young lady has used the remedy with undiminished success.

Mr. Griffiths, of Pantgwyn, did me the honour to consult me about a young friend labouring under an affection of the throat. During the consultation it was necessary for me to raise my voice very considerably to make myself heard by Mr. Griffiths, and I observed that when he blew his nose he distinctly passed air through the tympanum. After the consultation, I alluded to his deafness, and the probability, that by a new remedy I could afford him some relief, more especially

as he had unconsciously revealed to me, in blowing his nose, a state of ear favourable for success. He readily assented to a trial; and I must be permitted to quote his own statement of the result. On the remedy being applied, he says, "To my utter astonishment I heard every sound so loud, that I felt I had never known what it was to hear until that moment. On entering the streets, the noise was so intense that I was compelled to stop up my ears to deaden the sound; but after a time I became accustomed to it, and can now enjoy the pleasures of social converse without straining my auricular organs, or being obliged to be addressed in a considerable elevation of voice. Personally I continue to apply the remedy with the same beneficial effect, and am convinced of its permanent nature, when persevered in and properly attended to."

The following brief history of Mr. Griffith's case, as detailed by himself, is interesting in many points of view:—"The crisis of a severe attack of scarlatina in my infancy was attended by abscesses in both ears, which produced deafness, and a continual discharge of purulent matter, more or less, until I attained my twenty-second year, when the latter ceased. Occasionally concretions or wax formed in the passage, increasing the deafness. These were removed by syringing, after which a thin pellucid fluid would issue from the ears, during which my hearing was much improved, again becoming worse as the discharge ceased. While the discharge lasted I experienced a slight tenderness in my ears, which also ceased with the discharge. I find that your remedy sometimes does the same thing, and that is my reason for not constantly using it: but if it is *not* applied, my hearing is not in the least degree remedied! The discharge is always more profuse when in bed, even without the remedy, and I am somewhat puzzled to account for it."

From this communication, written three or four weeks after his visit to town, it appears that the remedy at first set up an irritation in the ear, which occasionally rendered it advisable that it should be discontinued; but now I am enabled to state that such obstacle to its use no longer exists, and that he applies it regularly, uninterrupted, and with undiminished success.

This case, like the first quoted, proved to be one in which there was a loss of a great portion of the membrana tympani; and I may here observe, that all my experience tends to show that this is an essential condition of the ear for success. At the present time I can refer to not very far short of *two hundred cases* in which the new treatment has been successful, and in all of which, more or less perforation or destruction of the membrane exists.

A very small quantity of wool is sufficient. It must be moistened in some fluid without any compression, and gently pushed down the meatus with the point of a probe. I have had constructed for the purpose a set of instruments which are calculated to meet and overcome every difficulty; for I need scarcely say that it is very easy to talk of passing a foreign body down the meatus, but it is not so easily done.

With a few rules, which of course vary with the case, the patient may be taught to manipulate upon himself, and all that is required is to remove the dry wool, and replace it with moist, night and morning, or morning only. This is quite sufficient to maintain the improved hearing at intervals.

It will be expected that I should say something of the *modus operandi* of this new application; but I can offer nothing that is conclusive. It has appeared to me in some way or other to supply the place of the lost membrane. The moisture is absolutely necessary to its perfect action; for when the wool becomes perfectly dry it impedes rather than improves the power of hearing. Is it possible that moist wool placed at the extremity of the meatus can transmit the vibrations of sound in the same manner as the natural membrane, or must we look for some other explanation? However, of its relieving this kind of deafness there can be no doubt.

The experience of several years has taught me that it is impossible to convey to others, *in words*, such explicit directions as shall enable them to manipulate with any degree of certainty. In fact, it was on this account that I have so long held back from publishing any account of the remarkable fact I had observed in my practice.

The rules, the observance of which is essential to success, more especially apply

to the discrimination of the case—the preparation of the ear—the size of the pellet of wool—the degree of moisture—the degree of pressure—the precise spot on which to place the wool—under what circumstances to omit it, and when to resume it, &c. &c. In the absence of such knowledge, circumstances might arise by which not only the patient, but the practitioner might possibly do some serious injury. An instance of the kind has lately occurred. A surgeon brought a case to me in which the treatment was successful: and having seen me produce a great improvement in the hearing, he thought he should be able to succeed also, without further assistance. He inserted the wool, but could not reach the necessary spot; and in endeavouring to withdraw it again some injury was done, which completely ruined the ear for future treatment. I have never since been able to get the remedy to act in this case. Although it is impossible in words to convey all the necessary information, it will at all times afford me great pleasure practically to illustrate the subject before any practitioner who will favour me with a visit.

As I have already shown, the cases in which the new treatment is at present found applicable are those in which there is partial or complete loss of the membrana tympani: such cases are very frequently accompanied by otorrhœa; but whether this symptom be present or not, the remedy may be found successful.

When internal otorrhœa has become chronic, and the membrana tympani seriously diseased, it appears to me, that so long as the discharge is moderate, and the deeper-seated structures of the ear unaffected, if a tolerable amount of hearing remain, the subject of it is in as good a position as regards hearing as is compatible with the nature of such cases. It is found that the use of astringents to the ear, whether they diminish the discharge or not, invariably aggravate the deafness, sometimes causing permanent tinnitus; and even if the discharge cease spontaneously, which it sometimes does, the hearing is always worse than during the discharge. These circumstances, together with the possibility of inducing cerebral inflammation, taken with the fact, that in the great majority of cases otorrhœa remains during the whole lifetime without injury to the patient's health, and without annihilating the sense of hearing, are sufficient to make us direct our attention to the preservation of the patient's health and the maintenance of as great a degree of hearing as possible without the suppression of the discharge. If a good state of health be preserved, and the exciting causes of ear-disease be avoided or guarded against, there is little risk of the fearful termination which attends the spread of the disease inwards to the brain. But as age advances, there is a natural tendency to the suppression of ear-discharges of all kinds, and their spontaneous disappearance is rarely, if ever, attended by any ill effects, but the desirability of such a termination is lessened by the increase which takes place in the deafness.

Happily, the moistened cotton-wool now presents itself as a remedy for such cases, and my experience justifies me in saying, that in a very great majority, when skilfully applied, it will materially add to the comfort, gradually lessen the discharge, and vastly improve the state of hearing.

With respect to the instruments which I use, I may briefly state that they consist of a pair of small forceps, weak in the spring, so as to admit of the blades coming accurately together with the slightest possible pressure. This instrument should differ from the ordinary forceps in another respect; namely, the blades or prongs should have no roughness at their extremities, and should be so rounded as to act as a common probe when in apposition. The intention of this instrument is of course to introduce the moistened wool to the bottom of the meatus, having done which, they should be disengaged from the wool and withdrawn. The blades being then brought together, the forceps may be again introduced, acting as a common probe, for the purpose of adjusting the wool on the spot, which, when covered, produces the best degree of hearing of which the case may be susceptible.

An instrument, then, is required for the introduction, the adjustment, and the withdrawal of the wool; I need scarcely say, that the forceps I have described is sufficient, in dexterous hands, to accomplish these requirements; but I have found that my patients have preferred a separate instrument for the adjustment as well as the withdrawal of the wool. For these purposes, therefore, I have constructed

a simple rounded bar of silver, probe-pointed at one extremity, and with a small screw at the other: the one end serves to adjust the wool, the other most surely will entangle and withdraw it. These instruments may be procured of Messrs. Weiss, in the Strand, or of Mr. Thompson, Windmill street, Haymarket.

A few words as to the mode of applying the wool. The practitioner should get a view of the tympanum, and make himself acquainted with the nature and extent of the disorganization. This he will be able to do with the aid of my *speculum auris*, a description of which appeared in the 'Lancet' so far back as September 1839. It is chiefly distinguished from other specula by having a roughened surface at the extremity of each blade externally, to the extent of a quarter of an inch. The roughened blade clings to the meatus, and enables the operator to *straighten* as well as to *dilate* the passage, and a much better view is thereby obtained. A small piece of fine wool, differing in size according to the case, and fully moistened in water, is then introduced through the speculum to the bottom of the meatus, and adjusted superiorly, inferiorly, anteriorly, or posteriorly, according to the situation of the perforation and other circumstances connected with the case; but care must be taken that the entire opening be not covered, otherwise the experiment will not succeed. It is also indispensable to success that the moisture of the wool should be preserved.

ART. 46.—*On the Treatment of Gunshot Wounds.* By M. VELPEAU.

(*Excerpta from a Course of Lectures, translated for the Lancet, by Victor de Meric, M. D., M.R.C.S.E.*)

AMPUTATION.

The principal question to be decided in these cases refers to the adoption of primary or secondary amputation. Before attempting a solution of the problem, it will be well to consider the different stages through which a person, upon whom a complicated gunshot wound is inflicted, usually passes. The first is the period of stupor; this is the result of the sudden shock which the nervous system, and, in fact, the whole organism, experience by the reception of the wound, the patient being mostly in a state of great excitement at the time. This period lasts generally from twenty-four to thirty-six hours, and is followed by the second stage, which is the period of inflammatory reaction; this will appear towards the second or third day, and is analogous to the period of elimination in burns. In alluding to burns, our forefathers firmly believed that gunshot wounds were always complicated with severe burning. You are probably aware that such is not the case; modern surgeons have fully shown that this supposed complication is quite imaginary. Still, I must not omit to remark that gunshot wounds, although they never be complicated by actual burns, have nevertheless several analogies with the latter. For the ball breaks down the textures, not by the caloric with which it may be charged, but by its violently bruising effects, so that the results are very similar to those of severe burns; and besides this resemblance, you may notice that the period of reaction in gunshot wound is marked, like the same period in burns, by the casting off of the sloughs.

The period of reaction has two phases: the first is characterised by swelling and inflammation, and extends over two or three days; and the second, by the formation of a slough, and an ichorous discharge. After this second period, as that of reaction, comes the third period, the principal character of which is suppuration. The primary or immediate amputation ought to be performed in the period of stupor; we should not wait until inflammation has set in, for it would continue in the stump, and go on invading the parts until it fastened upon the trunk. If from some consideration or another you do *not* amputate in the first period, it will be advisable to put off the operation until the third stage, viz: the period of suppuration, has set in. It is a very difficult matter, indeed, to decide immediately whether such a great calamity as the loss of a limb should be incurred or not; and I do not think it possible for the surgeon to give a positive opinion, on the receipt of the injury, as to whether it is really impossible to save the limb. Faur was not ignorant of this difficulty, and he came to the resolution of entirely rejecting immediate amputations, for fear of cutting off a limb which might have been pre-

served. But Boucher, who was a warm adversary of his on this point, contended that Faur, by his anxiety to save limbs, lost a great many patients. Cases of gunshot wounds, complicated by fractures of the femur, are the most puzzling of all; for the fractures, at first sight, do not seem very serious; but a sad experience has nevertheless taught us that they almost always necessitate amputation: such is the opinion of Larrey, Percy, Gaultier de Glaubry, &c. Surgeons engaged in civil practice endeavoured, in 1830, to avoid amputation in cases of complicated gunshot wounds of the thigh. Out of eight or nine such cases, which I treated in my wards at La Pitié, two recovered without amputation, three with secondary removal of the limb, and the rest died. Dupuytren and Lisfranc had also a few recoveries; and several amputations which were performed at the hospital of St. Cloud were followed by complete recovery. The consequences of secondary amputations are, in fact, more favourable than otherwise, because the patients escape the danger of the period of inflammatory reaction, which they have already gone through. But it so often happens that an amputation which at first gave the very best hopes of a happy issue, becomes unadvisable after a short time, on account of local disorders, or the weak state of the patient, that it is our bounden duty, in a great many cases, to have recourse to immediate operation.

When we are called upon to decide the question of primary amputation we should consider, first, the gravity of the wound, *per se*, and then the nature of the instrument by which it is inflicted. Wounds made by bayonets, lances, swords, &c., hardly ever require immediate amputation; it is for gunshot wounds that such an operation is almost exclusively required. During the conflict which a few days ago brought so many wounded into our wards, very few large projectiles had been fired: you are aware that these will inflict injuries of such a dreadful description as mostly to require amputation without delay, for such wounds are always of a very serious nature. Deer-shot, small shot, &c., produce wounds which very rarely necessitate the removal of a limb; but it is not so with musket balls, for they are propelled with such force and velocity that they will divide vessels and nerves, and shatter bones into pieces. An ordinary compound fracture, in the vicinity of an articulation, often renders amputation imperative; but the necessity of such a step becomes absolute and unavoidable, if the compound fracture be the result of a gunshot wound. Gunshot wounds also bear some resemblance to poisoned ones: they soon generate really venomous principles. These wounds consist generally in a sort of channel dug out in the very thickness of the textures; the parietes of this channel are bruised and triturated, and the channel itself contains a detritus and slough, which are floating in blood; this blood remains stagnant under a temperature of about 90°; confined and hemmed in by disorganized tissues, it soon undergoes decomposition, gets putrefied, and becomes actually poisonous. If under such circumstances resorption should take place, it is clear that the system will be contaminated by these deleterious principles, and the subsequent phenomena resulting from the stagnation of this noxious liquid sufficiently prove this to be the case. We should therefore not wonder that the surgeons of the fifteenth and sixteenth centuries should attribute the continued and intermittent fevers, the adynamia, the yellow tinge of the face and of the rest of the body which mostly accompany gunshot injuries, to some poison conveyed into the wounds.

If the wound, already dangerous enough by being inflicted with a ball, be complicated by the fracture of the bone, and this fracture be situated in the vicinity of an articulation, there is not a moment to be lost, and the removal of the limb should at once be effected. We recognised three periods in the progress of gunshot wounds; I have to add that between the first and the second there is an intermediate one, which is characterised either by hemorrhage or gangrene. When dangerous hemorrhage occurs after the period of stupor, you should amputate at once, and not wait for the suppurative stage. If, in the same way, gangrene were to appear after the period of prostration, you should not delay the operation an instant, for the swelling would soon prevent you altogether from resorting to the knife, and you would thus lose the only chance of saving your patient. I am bound to tell you that all surgeons do not agree with me in this respect; many think that no amputation should be performed with traumatic gangrene before the latter is distinctly limited. I am much encouraged to follow this line of practice by the good results obtained in the case I operated on the day before yesterday.

That individual had his leg and knee shockingly shattered by a ball on the 24th of February; he refused the immediate amputation, and the leg two days after was extensively sphacelated; I therefore took off the limb early on the 27th, and the man is doing well. I did not use chloroform for that patient, nor shall I take advantage of this anæsthetic agent for the patient who is about to be brought in, because the chloroform evidently depresses the nervous system, and as great prostration always exists in patients who have received gunshot wounds, it is advisable to refrain from any anæsthetic means.

GANGRENE.

Gangrene occasioned by gunshot wounds may be divided into two kinds—the gangrene resulting from a direct cause, and gangrene following upon an indirect cause. The first is unavoidable, and the natural result of the peculiar class of wounds which we are studying. It is principally owing to the contusion and trituration of the soft parts, which are left in a bruised state, and may vary a good deal in intensity. Thus it may involve very thick or only thin layers of textures, and it will, in general, be more severe when seated within bones than in the soft parts, for the latter recede and give way to the force of the projectile, whilst the former, which offer resistance, get more or less crushed. The gangrene resulting from an *indirect* cause is that mortified state of parts which, in general surgical practice, goes by the name of gangrene: it results from, and is, in fact, an effect of, the wound, but does not appear within the latter, and cannot be said unavoidably to follow all gunshot injuries. Of this species of gangrene there are two varieties: the first occurs by the influence, and the very fact of the existence, of the wounds; the second is excited by the inflammation consequent upon this same wound. The first of these two species may be said to depend, first, on the lesion of the bones; second, on the injury done to some nervous trunk; third, on a lesion of the arterial or venous vessels; fourth, on the crushing of the parts. When a ball in its transit through a limb meets with vessels, it may, by this circumstance, occasion several distinct lesions: the principal artery and its larger branches may be injured, and gangrene almost unavoidably occurs in such a case; or the principal arterial trunk may alone be wounded, and gangrene may then not occur at all. If the artery and vein are injured at the same time, gangrene will be almost unavoidable; for, granting that the blood may reach the extremities of the limb by collateral arterial circulation, it is nevertheless but too true that the venous circulation will necessarily be interrupted; blood will get effused between the various tissues, and the consequence of this state of things will be, sanguineous infiltration and engorgement, great distension, and, finally, gangrene. If, on the other hand, the limb is supplied by several *important* arteries and veins, gangrene will not necessarily ensue, although a principal artery and vein have been injured, for the circulation may be carried on by the good-sized vessels which remain uninjured. Thus may the patient escape gangrene, even when both femoral artery and vein have been wounded, for it is extremely probable that the circulation, in such a case, will be continued by the profunda and its vein. Violent division of nervous trunks is also a cause of gangrene. However, in a limb supplied by several large nerves—as in the arm, for instance—the division of one or two of them will not inevitably bring on gangrene; but if the greater number of the nerves distributed to a limb experience a severe lesion, there will not only be paralysis, but gangrene also. A solution of continuity in the skin, however extensive it may be, is never followed by mortification: the same may be said of the muscles, provided the larger vessels and nerves have escaped. Nor is the mere crushing of the bone a cause of certain sphacelus; but if this injury be accompanied by a laceration of vessels and nerves, as well as bruising and trituration of the soft parts over a large extent, gangrene will inevitably follow. But it is not sufficient for the surgeon to know that sphacelus is a frequent complication of gunshot wounds; he should go further, and endeavour, by the knowledge of this fact, to frame certain rules of practice calculated to promote the safety of his patient.

It is in the power of the surgeon, within certain limits, to give a pretty accurate prognosis as to gangrene, by carefully observing the amount of havoc done by the vulnerating agent. Still many difficulties start up. Thus, when hemorrhage

takes place, it may often be extremely hard to say whether the blood proceeds from an artery or a vein; for the tearing, crushing, and bruising of the parts will prevent the blood from issuing *per saltum*. The division of an artery may, on the other hand, cause no hemorrhage at all, for the vessel may be plugged up by a very hard clot, or the blood may get infiltrated among the neighbouring textures without finding an outlet. When an artery has been wounded, we may have two kinds of hemorrhage consequent upon the injury—the gush of blood may be immediate, or may, after some time, follow the detachment of the slough, that the surgeon may well be puzzled when he is expected to found the more or less gravity of the prognosis upon the data furnished by hemorrhage. If the wound implicate at least half the thickness of the soft parts, and vessels and nerves of some size are distributed to the injured textures, there is a great probability of gangrene. To sum up these considerations, it may be said, that when the surgeon has to deal with a gunshot wound, he can, to a certain extent, foretell whether the injury will be complicated with gangrene or not; but there are cases where a decided opinion on this head cannot conscientiously be given.

The prognosis of gangrene, consequent upon a gunshot wound, is far more unfavourable than in cases of mortification complicating an ordinary wound. But spontaneous gangrene, on the other hand, is still more dangerous than sphacelus following a gunshot wound, for the former mostly depends on a cause over which surgery has no control. It may, for instance, be consecutive to a spontaneous arterial lesion, or to some morbid alteration of the whole organism. &c. The arterial lesion consists mostly in arteritis, followed by an occlusion of the vessel, or in some degeneration of the artery. Accidental gangrene is far from being so serious as spontaneous mortification; for though the former as well as the latter depends on the lesion of vascular trunks, it must be noticed that this lesion in traumatic gangrene is merely local, and that it can be remedied by the assistance of art. Gangrene which occurs as a complication of gunshot wounds is more dangerous than that which follows ordinary wounds, because the projectiles which inflict the injury bruise the soft parts, tear and violently divide the vessels and nerves, and crush the bones. This sudden trituration soon produces a mass of putrescent matter, which, by its deleterious effects, acts very unfavourably on the economy, and actually causes the poisoning of the system.

The treatment must be strictly surgical, and may be at once summed up by stating that there is nothing to be done but to remove the part attacked by gangrene. It was the custom formerly, before the tying of arteries was practiced, to allow the mortified parts to be cast off by the efforts of Nature. But as we now-a-days understand the application of ligatures to arteries, or the torsion of these vessels, we prefer amputation to the natural eliminating process; for, by allowing the latter event to take place, we run the risk of giving the patient a very bad stump, with the bone protruding the cicatrix, because gangrene always acts more powerfully on the muscular than on the osseous textures. It is a very safe rule at once to have recourse to amputation; but great attention should be paid to the general state of the patient, for a commencement of absorption of the deleterious principles would be a strict counter-indication.

It is evident that the organism contaminated by poisonous principles from a double source will not be able to cope with these formidable attacks: this life or death contest will not last long; the patient will be soon exhausted. Therefore, I may lay it down as a general rule, that it is good practice, when gangrene results from gunshot wounds, to amputate before the appearance of the line of demarcation. This, however, is to be taken as a precept offered *à priori*, and I am bound to add that this, as well as all rules, has some exceptions. If, for instance, as M. Larrey very justly observes, the gangrene begins at the extremity of a limb, or at the finger's end, we may safely wait until the line of demarcation is formed; but if the mortification were to occur in the thigh or middle of the arm, immediate amputation, before the formation of the boundary line, is the only chance left for the patient. The wounded, upon whom amputation is thus performed, before the gangrene is clearly limited, are by this very fact rather unfavourably situated. You can convince yourselves of the exactitude of this statement, by observing the two men upon whom I lately operated; one of them, as you recollect, had his arm amputated, the other, his leg. The stumps are flabby, suppuration is very scanty,

and the whole economy seems depressed and exhausted. Now it must be confessed that this unfavourable state of things is not so likely to occur when the gangrene has been allowed time to limit itself. And yet, in spite of this, I must repeat, with reference to gangrene, what I said when speaking of fractures, viz: that we are very often obliged to amputate before the limits of the gangrene appear, for fear of rendering the operation hopeless by injudicious delay, and thereby losing the only chance of saving the patient; just in the same way as it very often happens with fractures, which frequently call for immediate amputation, driven, as we are, by the apprehension that the operation may, at a later period, become quite useless.

DILATATION.

There was a time when it was the rule to cut or dilate immediately gunshot wounds; many surgeons still hold to this practice; and the following are the arguments on which they base their treatment:

It was thought that circular wounds and ulcers could not cicatrize. In effect, it was argued by one party, in order that cicatrization shall take place, it is necessary that all the points of a wound or an ulcer should be in contact; but this is impossible in a round wound: hence it was argued that another shape was necessary to make it heal. This reasoning is not valid at the present day, for it is perfectly well known that round wounds can cicatrize; that the whole of their circumference and their depth produce granulations, the result of which is the formation of a layer of new tissue, which at length becomes level with the skin, of which it assumes all the characteristics.

Although this principle should be proved false, yet dilatation should be employed, nevertheless, for two reasons—1. In order to obviate strangulation. 2. To give room for probing foreign bodies contained in the wound. This last reason is valid in a great number of cases; in fact, it is rare that there do not enter with the ball other foreign bodies of various kinds, as fragments of dress, paper, &c., with which the ball has been in contact, and which are pushed before it. Thus even the portion of skin which it carries before it, and is found in the middle of the tissues, is to be regarded as a foreign body. Hence we see that gunshot wounds frequently contain foreign bodies, and, in order to their discovery and extraction, it is necessary to enlarge the wounds, for which reason dilatation is useful. But, even as thus considered, incision should not be practised as an invariable rule, because if there be no strange body, or if it can be easily seized, it is not necessary; and, to sum up, there is no necessity for dilatation, except space be required to lay hold of any extraneous substances.

INCISIONS.

Incisions are, in general, not necessary to prevent distension and strangulation of parts. The act of freeing the textures prospectively is fraught with danger. I have no doubt that we hazard the life of our patient very materially if we lay open the whole trajet of the ball, as advised by Dupuytren. I would lay it down as a rule, that the practice of making incisions in order to free apprehended engorgement and distension as resulting from gunshot injuries, does not rest on sound principles, and should decidedly not be indiscriminately adhered to. The use of the knife should be restricted to peculiar circumstances, where its interference is of obvious utility; thus, incisions may be made in order to facilitate the extraction of foreign bodies which the surgeon finds it difficult to reach: or to get rid of the distension of an aponeurosis kept on the stretch by an effusion, and which might determine troublesome strangulation of the parts; or, lastly, where such tightening and strangulation have actually occurred.

EXTRACTION OF FOREIGN BODIES.

If the foreign body lies free and unconnected in the wound, and its extraction will not produce further mischief, get rid of it by all means. But it often happens that these foreign bodies are still connected with the tissues; thus may bony fragments, in comminutive fractures, adhere strongly by some points of their surface either to the shaft of the bone or to the periosteum, or to any of the textures connected with the osseous structure, whilst other splinters of bone are quite de-

tached. The latter should be, of course, removed at once; whilst the former should not be disturbed, and their extraction postponed. Some of the fragments are sometimes very small, and could hardly be seized; the eliminating process should, in such cases, be left to Nature; they will commonly be cast off by supuration, as are, in fact, all the tissues which the violence of contusion has changed into an eschar. What are we to do with regard to the balls? It happens so often that they cannot be discovered, in spite of the most diligent search, that it will be advisable not to trouble ourselves much about them. If a ball strikes the front of the chest, and comes obliquely in contact with a rib, its course may suffer a complete deviation, follow the convexity of the rib, and lodge in the back, close to the vertebral column, without penetrating the chest at all. What would be the advantage of searching for it in such a case, and thereby make two wounds instead of one? If the ball has actually entered the chest, we must not suppose that the danger of such an injury lies in the presence of the ball within the thoracic cavity; it is the lesion of the viscera which principally puts the life of the patient in peril. Supposing the contents of the chest really wounded, and that we were to enlarge the wound in order to search for the ball, we by this procedure facilitate the entrance of air through the aperture made by the projectile, and its reception into the track of the ball, from which we, on the contrary, should carefully exclude it. The most dangerous complications would ensue from such a practice. If the ball were lodged in the groin or axilla, it would be equally hazardous to attempt immediate extraction, on account of the vessels and nerves which might be wounded by this operation. Balls are, moreover, foreign bodies, the presence of which the tissues bear very well. Larrey gives the case of an old soldier upon whom a ball was found incarcerated in the root of the lung; it had remained in that situation for thirteen years, and had had no prejudicial effect on the man's health. I myself extracted a ball, a little time ago, from the ham of a patient; it had been lodged in that region since 1813, and had not given rise to any accidents.

Balls, as you are probably aware, whatever may be the part where they are arrested, get surrounded by a sort of bag or cyst, which separates them from the neighbouring textures, and prevents them from causing the irritation and inflammation which foreign bodies generally give rise to.

ARTIFICIAL COMPRESSION OF ARTERIES.

Hemorrhage is one of the most fearful complications which accompany gunshot wounds. If the hemorrhage is immediate, the means of stopping it are so well known that I need not dwell upon them. But, hemorrhage is mostly secondary; that is to say, it occurs only when the clot which had plugged up the vessels falls off. Now this secondary hemorrhage is very dangerous in most cases, and often kills the patient in a few minutes; but we shall dread this complication still more when we recollect that a sudden and fatal gush of blood may take place when we least think of it, and without any premonitory symptom. This fact has naturally led surgeons to inquire whether it would not be advisable, in those cases where we suspect that a large artery has been wounded, to use a prophylactic compression on the course of the vessel by means of a tourniquet. I do not approve of this method, for if the compression is powerful enough completely to stop the circulation through the vessel, it may give rise to gangrene; and we know that gunshot wounds are, by their very nature, sufficiently exposed to sphacelus, so that it would be hardly justifiable to make the patient run an additional risk. If, on the other hand, the compressive force is not sufficient to obliterate the vessel, it is quite useless, and hurtful besides, on account of the pain which it occasions.

BLOODLETTING.

Abstraction of blood, both locally and generally, has been strongly recommended by a great number of surgeons, especially by those who do not advocate the practice of incisions. Venesection has been employed by some practitioners immediately after the receipt of the injury, and repeated several times over with a view of obviating local inflammation and general reaction. These measures are very advisable within certain limits; but they may be fraught with much danger; nay, they may rapidly bring on a fatal issue if not applied with prudence and modera-

tion; for when the patient arrives at the suppurative stage, if he has been weakened by bleeding he will not be able to bear the drain of suppuration, and in gunshot wounds the suppurative process, along with the elimination of the sloughs, is inevitable: we should, therefore, husband the strength of our patient, and not bleed him too much. You must not, in fact, have recourse to venesection merely because your patient is labouring under a gunshot wound, but you should be guided by the usual indications for the abstraction of blood. Thus it will be advisable to bleed immediately after the wound has been inflicted, when the latter involves parts abundantly provided with cellular tissue, if the patient is plethoric, and above all, if the wound has penetrated a splanchnic cavity. Bleeding may also be used in a later stage if the reaction is too violent, or if the inflammatory fever is too intense. Local bleeding has likewise been extensively used in cases of gunshot wounds, by means of the cupping-glasses or leeches. When cupping was resorted to it was employed to answer two ends. The glasses were applied on the wound itself, the margin of the latter having previously been slightly scarified. This was intended to pump up and draw out the poison, just as it is now done with wounds really and truly poisonous, or with those resulting from the bites of snakes. This mode of applying cupping-glasses is now quite abandoned, as the idea that gunshot wounds are venomous is entirely given up. This practice, is, however, not bad in itself, since there is really, as I have shown, a sort of poison generated in most gunshot injuries. As for myself, I do not use cupping at all; I prefer injections, which are much better calculated to cleanse the wounds, by washing away all those putrid substances which might prove noxious to the economy. The other end which was held in view when cupping-glasses were applied in the ordinary manner, was to control the pretty intense inflammation which sometimes springs up around the wound; but the scarificator as well as the exhausted glasses are too painful in such cases, and they may advantageously be replaced by leeches. But you must notice that the latter are not advisable except the inflammation be considerable; and there is no doubt that Dupuytren was quite right when he condemned in strong terms the abuse to which the application of leeches was carried. Lisfranc used to apply them five or six times consecutively around gunshot wounds, not because there was any particular indication for such a course, but from the principle, and *à priori*, in order, as he said, to combat the likelihood of distension in the part, and to render incisions unnecessary. To convince yourselves that this was bad practice, you should remember that distension and strangulation in the track of a gunshot wound are very rare; not one of the wounded we have in the house offered us any example of such symptoms, and those upon whom I performed amputation were equally exempt from it. I prescribed leeches for one of these patients only, not because there was distension, but on account of the inflammation which sprang up around the wound. We must, in fact, beware of carrying the abstraction of blood, by means of leeches, too far; they depress the organism as well as general bleeding, and when the patient, thus weakened, reaches the suppurative period, we find the pus unhealthy, sanious, and scanty; colliquative diarrhœa sets in, and soon carries him off. To sum up, then, it may be said, that no absolute or general rule can be framed for the treatment of gunshot wounds. We should use incisions when the parts are actually over-distended and strangulated, which complications happen very rarely; we should have recourse to local or general abstraction of blood when bleeding is clearly indicated, and we must finally do nothing *à priori*, or to satisfy any ingeniously contrived theories.

INTERNAL REMEDIES.

There are certain indications which it is of importance carefully to fulfil. Pain should be allayed by *opiates*, the blood kept in a diluted state by cooling drinks, and its plasticity lessened by bloodletting and saline purgatives. These precautions will be very appropriate for the first and second periods, and nothing more in the way of general treatment should be done during these stages, for if we were then to venture upon tonics we would be sure to bring on a state of excitement anything but beneficial. In the third period, however, we should see that the patient be supported; a slightly tonic, but unstimulating diet will answer that purpose, but it should be prudently regulated, and its effects watched. Such is, in

a few words, the best treatment you can use as addressed to the system generally in cases of gunshot wounds.

POSITION.

This question is not less important in gunshot injuries than it is in other wounds. The rule is, in fact, to prevent stagnation of purulent matter, and favour its discharge towards the most depending parts. Purulent absorption is a source of infection from which we should sedulously seek to shield our patients. If, for instance, the wound be on the superior part of the head, we have three circumstances to attend to in order to remedy the disadvantage resulting from the wound not being in a depending part of the same. We must either so place the patient that the direction of the wound may be altered, or apply dressings which will effect a compression upon the latter from below upwards, so that the pus may not remain stagnant at the bottom of it and there accumulate; or we must finally make a counter-opening. You have seen me use this latter expedient a short time ago; the patient had been wounded by a sabre cut on the left parietal bone; now, as the opening of the wound was towards the vertex, the purulent matter could not discharge easily; I remedied this by making a counter-opening on a level with the fundus of the wound. The danger of penetrating wounds of the chest, independently of the lesion inflicted upon the viscera, lies principally in the accumulation of the fluids towards the lower part of the wound; these remain stagnant, give rise to burrowing and sinuses, and no position which we may cause our patient to assume will effectually cause their discharge.

These dangers exist in a lesser degree with penetrating wounds of the abdomen, because a peculiar kind of decubitus, and a well-regulated system of compression, will be sufficient to cause the effused liquid and the purulent matter to be discharged by the opening of the wound. But you should pay particular attention to the manner of placing wounded limbs. No general rule can here be given, for the position of the injured member must be regulated by the different periods the wound has to go through. Let us first suppose that you have to deal with some phlegmonous inflammation which has not yet reached suppuration; the limb, in such a case, is usually kept elevated, and this position is the most likely to bring on resolution. But if purulent matter have already formed, we must adopt another course; the elevated position would then be dangerous, for sinuses towards the upper part of the limb would certainly form; and to avoid this the dependent posture is generally advised. The very same principles hold with gunshot wounds. The extremity of the wounded limb is to be raised within the first and second periods, but as soon as suppuration has taken place the limb should at once be made to assume a dependent position, so as to prevent the purulent matter from running towards the upper part of the same. The raised position of the limb is, in gunshot wounds, of very trifling utility, whereas it may, on the other hand, be fraught with very serious inconvenience. The advantages of it are, in fact, to diminish inflammation, but you know that the latter is not the event we apprehend most in these kinds of wounds, so that we should at once inquire what may be the dangers of this raised position of the limb? These are no less than burrowing of matter and subsequent purulent infiltration; and this is just what is most to be dreaded in gunshot wounds. Of this fact you have clinical proofs before you; you need but observe some of the cases which have lately been brought in. Notice, for instance, what takes place in wounds of the knee: this joint, when the dorsal decubitus is assumed, is almost always on a higher plane than the hip. What is the result? Stagnation of fluids within the wound. This circumstance contributes certainly very much in rendering wounds of the knee-joint so perilous. Do not believe, gentlemen, that the danger of keeping limbs in a raised position is confined to the untoward results which I have been describing; it may give rise to other very unpleasant consequences. Suppose, for instance, that the surgeon, in order to meet certain ends he has in view, keeps both legs raised; what will be the consequence? Why the circulation will be greatly modified in these limbs; the amount of blood sent to them will be lessened, but in other regions it will, of course, be much increased; and hence we may have congestion of the liver, kidneys, lungs, brain, &c. We should, therefore, prescribe the raised position of the limb with great caution, and be careful to remember

that this elevation of the same may, in gunshot wounds, be more prejudicial than advantageous.

TOPICAL APPLICATIONS AND METHODS OF DRESSING.

The annals of surgery present many different modes of dressing gunshot wounds. There was a time, indeed, when they used to be burned with gunpowder, in order to destroy all the external layers which were then thought poisoned. Some burned the wounds with a red-hot iron, and others applied boiling oil to them. Ambrose Paré, who lived at a period when civil war was raging, paid much attention to these kinds of wounds. His practice was to make immediate applications of hot oil. He tells us that the quantity of oil was one day insufficient to dress all the wounded, and he was obliged to use ointment for some of them. When he returned home he was very uneasy about these poor fellows, and he very forcibly describes the anguish he experienced the whole night, and the hurry and apprehension with which he hastened to see them next day. But how greatly astonished he was to find them doing tolerably well! He forthwith gave up the boiling oil, and it is rather humbling to confess that mere chance caused such a barbarous practice to be given up. From that time, ointments, plugging, tents, and setons, were successively used; and I beg you to notice that the last of these contrivances is not quite so unreasonable as has been represented. This can easily be shown. Gunshot wounds are generally winding and irregular, and this is owing to two circumstances,—the ball may have been made to deviate, on account of the different density of the tissues through which it has run; or the organic layers which have been displaced by the passage of the ball have resumed their position to an extent varying with their respective elasticity. It is evident that the windings of the wound will be a hinderance to the free escape of the pus; whilst a seton, which completely and regularly runs through this wound, will effectually favour the discharge, and prevent stagnation. The use of the seton has, however, been discontinued, in spite of the palpable advantages to be derived from it, because it is very apt, by acting as a foreign body, to give rise to very dangerous inflammation.

Cold applications.—Cold water or ice has long been in repute as a topic in the treatment of all wounds, and especially in gunshot injuries. We find, in a thesis of M. Madelin, published in 1825, proofs that this practice is very ancient. The use of cold water as an application to gunshot wounds has been especially recommended by Schmuck, a Prussian surgeon of the last century, as well as by Lombard, a French practitioner, who served in the wars of the Republic. This feature in the treatment of gunshot injuries had been quite given up, when it was revived in France, about twenty years ago, by M. Josse, a surgeon of Amiens, who advocated it very strenuously. It is alleged that cold applications prevent inflammation and pain; that they in some degree do away with suppuration, and hasten cicatrization. They have been used in different ways. Some use continuous irrigation; others, for the sake of convenience, merely apply sponges or lint, dipped in cold water, as recommended by M. Mayor, of Lausanne, seeing that these applications be kept moist. Others, again, use bladders, filled either with cold water or ice. If it be conceded that the steady application of cold has real advantages, preference should be given to continuous irrigation, which of course will pretty constantly stand at the same temperature, and not present so many thermometric variations as when ice or lint, dipped in cold water, is used. But this continuous irrigation, it should be noticed, is rather difficult of accomplishment, and not easily kept up at an identical temperature. I have never been an advocate of continuous cold; still I have used it, and have carefully observed the cases where it was applied by others, and I will lay before you the conclusions to which I have come, as well as the reasons upon which I found them.

A continuous stream of cold water kept up steadily on a phlegmonous inflammation which has not suppurated as yet, may certainly contribute to resolution; but it cannot be denied that compression, leeches, cupping, mercurial frictions, or blisters, applied for a short time, may likewise act very beneficially on this same inflammation; all of which means are far easier of application than continuous cold of a non-varying temperature. If the wound we have to treat is an incised one, the only thing we have to do is to bring both lips in contact, and see that they

remain so, in order to favour union by first intention. If, in such a case, either cold water or ice were used, they would be very likely to cause mortification of the textures, and this result I have seen several times in wounds connected with large flaps, which latter, far from uniting, were invariably attacked by gangrene; so that I may safely assert that refrigerating applications on incised wounds are, to say the least of them, useless, and often very hurtful. In contused wounds we have two circumstances to take into consideration. First, we are to make out which are the mortified parts (which of course will be cut off), and, secondly, which textures are likely to be saved. In order that the sloughs may be removed, there must of necessity spring up an eliminating inflammation, and the only thing we have to do is to moderate it. But it is alleged that cold water *does* diminish that inflammation. There is no doubt that redness and swelling give way under the influence of cold; but the inflammation itself, lying below the surface, is rather concealed than arrested by this practice. Suppuration very often assumes an unsatisfactory character under the agency of cold water, and is likely to burrow under the fasciæ, and to get extensively diffused. But, moreover, who would venture to say that the application of cold does no further harm than the casualties which I have stated? Is it not a well-known fact that most phlegmasiæ acknowledge cold, and especially cold and damp, as their primary cause? May it not fairly be asked whether there is not some danger in causing a patient to hold his limb in cold water for several consecutive days and nights? Does he not thereby run the risk of being attacked by pneumonia, bronchitis, pleuritis, or rheumatism, which affections are all much more dangerous than the wound we are trying to heal? I leave you to consider these questions; as for myself, I have to state that the reasons I have laid before you have appeared to warrant the rejection of refrigerating applications.

SECONDARY HEMORRHAGE.

Secondary hemorrhage, in gunshot wounds, differs widely from the same accident caused by the rupture of an aneurism or by an ordinary wound; for in gunshot injuries the gush of blood results from the falling off of the clot which had been plugging up the wounded artery. This clot, by interrupting the course of the blood in the injured vessel, naturally produces, on the re-establishment of the circulation, great dilatation of the collateral branches; and it is evident that hemorrhage, by means of these same branches, would take place almost immediately, if you were to be satisfied with tying the artery between the heart and the wound. This return of the hemorrhage is principally to be dreaded in wounds of the head, even when a large arterial trunk has been secured, on account of the numerous anastomoses of the carotids, both with each other and the vertebral arteries. The patient who lay at No. 26 has afforded us a very sad example of this fact: he had had, as you are aware, his lower jaw fractured by a ball, which had issued on the upper part of the neck. Very alarming secondary hemorrhage took place after the receipt of the injury; the blood gushed both from the mouth and the two apertures of the wound, and, in spite of all our efforts, we did not succeed in arresting it. It was then I made up my mind to tie the corresponding carotid: what was the result? On the very evening of this operation hemorrhage occurred on two different times, and with as much violence as before the carotid was secured. When I saw the patient next morning, he was nearly exhausted, but the hemorrhage had stopped; a few hours afterwards, however, it returned again, and this time it proved fatal. Thus you see, that the tying of the wounded artery may prove powerless in secondary hemorrhage resulting from a gunshot wound. What then, are we to do in such unfortunate cases? Shall we apply powerful compression above and below the wound? This may decidedly do much good; and if it were impracticable, there would be nothing left but tying both ends of the injured artery within the wound. But even this last resource, however efficacious it may appear at first sight, is far from placing the patient's life entirely out of danger; for the coats of the artery, in the very spot where the ligature is to be applied, are not in a favourable state, on account of the injury inflicted by the wound; and the morbid alterations which have taken place in the textures of the vessel might therefore give rise to another rupture, and to renewed hemorrhage. So that we must conclude, from the consideration of these facts, that secondary hemorrhage in gunshot wounds is often beyond the reach of our art.

PURULENT INFECTION.

All severe wounds, whatever their nature may be, give rise to a general reaction. This may be divided into two distinct kinds. 1st. The inflammatory, or febrile reaction, which is characterized by phenomena so well known, that I need not describe them here. 2d. A reaction of a purulent or infectious nature. To this latter I beg you will direct your attention for a few moments. Of all wounds, those inflicted by balls are the most likely to expose the patient to absorption of purulent matter, and to the subsequent infection of the system. The surfaces of ordinary wounds are but rarely mortified; it is often an easy matter to bring the margins into contact and make them unite by first intention; whilst suppuration may be very limited, or sometimes not take place at all. In gunshot wounds, on the contrary, immediate union is impossible: the tissues over the whole periphery of the wound are mortified, must turn into slough, and be thrown off by suppuration; it is, under such circumstances, very likely that the economy will, to a certain extent, suffer from a kind of poisoning or infection, by the agency of the undetached sloughs, the elimination of which does not take place before the tenth or fifteenth day. Gunshot wounds are, moreover, mostly unequal and anfractuous, so that the pus accumulates in them, forms sinuses, and is discharged with great difficulty. The stagnation of the pus, and the prolonged contact of eschars and putrid purulent matter, is a double cause of infection, which sufficiently explains the frequency of purulent contamination consecutive to gunshot wounds. This poisoning or infection, as resulting from the passage into the circulation of putrid substances, is always of a very serious character; it is, in fact, the most fearful among the secondary complications of gunshot wounds; it is likewise one of the most frequent; and we have, unfortunately, several cases of it in the house. Several categories or forms of infection might be established, by taking into consideration either of the exciting causes of the same, or the lesions which it gives rise to. Thus may purulent infection result from a wound or ulcer which communicates with the external air, or from an abscess which has no communication externally, as happens with congestive abscesses; or it may arise from extensive and diffuse suppuration, which spreads among the muscles, and gets infiltrated through the whole extent of a limb. The lesions, on the other hand, which follow purulent infection, may affect the viscera and the splanchnic cavities; in such cases, numerous abscesses in the liver, spleen, or lungs are discovered after death: this form of infection is always fatal. Or the abscesses may not form in the viscera and cavities, but fix exclusively upon the limbs and articulations: this form is less dangerous than the preceding, and patients may recover, provided the abscesses be not too numerous or too extensive, and they do not occupy the very thickness of the limbs, as sometimes happens with the thigh. Or, finally, the purulent collections may occupy the splanchnic cavities, the viscera contained in them, the articulations, and the different tissues which compose the limb.

Purulent infection, resulting from gunshot wounds, generally comes on from the tenth to the thirtieth day. It is ushered in by rigours which, after a while, become more and more frequent, and is characterised by a frequent, small, and thready pulse, a feeling of excessive prostration, and by complete adynamia; so that the fever resulting from this infection might very well be called putrid or adynamic. The skin assumes a yellow hue, and is moistened by a cold and viscous perspiration; the patient exhibits an almost continual tremor, gets comatose, and dies. The wound, from the very beginning of this series of phenomena, looks pale, the suppuration diminishes, and the purulent matter gets gradually thin and serous. In those cases where there is a likelihood of recovery, a reaction takes place, the pulse resumes some vigour, and becomes less tremulous. The only thing to be done in these latter cases is to open successively all the abscesses which may have formed in the parietes of the trunk, or in the textures of the limbs.

HOSPITAL GANGRENE.

Hospital gangrene is a singular complication, which has not yet received a befitting name; it is, in fact, a sort of humid gangrene. The aspect of gunshot wounds, attacked by it, undergoes an immediate alteration; they, namely, turn of an ashy

gray, just as if a layer of foreign substance had been spread over their surface. The pus at the same time loses its usual characters, become transformed into a sanious and very scanty fluid, and the phenomena progress so rapidly, that we rarely have an opportunity of witnessing the very outset of them. Hospital gangrene is sometimes epidemic and sometimes sporadic. The French surgeons who have studied the disease most carefully are Poutot and Dussossois. Blackadder, an English surgeon, has recorded an epidemic of it which he saw in Spain. He thinks that it begins by a grayish, semi-transparent vesicle, which breaks, communicates with others, and thus forms a layer which invades the whole wound. A wound attacked by hospital gangrene, in whatever way the latter may have begun, assumes immediately a grayish colour; a pultaceous matter of the same hue, and of very offensive smell, oozes from it; the stump or the margins of the wound get puffed up and feel pulpy and boggy, and become very painful and throbbing. The reaction is sometimes very violent, the pulse is frequent, irregular, almost always very feeble; and the patient falls into a profound state of prostration and adynamia. All these phenomena occur in the space of twenty-four hours. The disease then progresses rapidly, and runs through all its stages in a week or ten days. The putrid gangrene spreads both in surface and depth, soon reaches the bones, which it destroys and necroses, and proves rapidly fatal. In very favourable cases it extends but superficially, and thus spreads gradually along the textures without gaining in depth; it transforms the integuments into putrid sloughs, which soon get limited by a red circle, from which the eliminating process begins. Hospital gangrene is mostly epidemic, but it is sometimes sporadic. The causes of this dreadful visitation are not well known; still it has been attributed to crowding, want of cleanliness, to wretched habitations, to the absence of hygienic precautions and medical care; but none of these causes can explain its appearance upon our two patients. The first case is a young woman, of very cleanly habits, who has had her breast amputated; and the wound was nearly cicatrized when the hospital gangrene made its appearance. Now the ward where this patient is lying is large and well ventilated; two wounded persons only have been admitted into it, and it contains several vacant beds, so that crowding is out of the question. The second case is a man. This patient had had his leg amputated just above the ankle about a week ago; the amputation had been necessitated by a comminative fracture of the tarsus, that had been struck by a bail, which had run through the foot. This man was, as well as the woman I mentioned just now, in a very satisfactory state in every possible respect; so that it must be confessed that these two cases present us with additional proof of the obscurity which still reigns over the causes of hospital gangrene.

Most surgeons admit that this sad complication is contagious: among them I may name Poutot, Dussossois, and Blackadder; and as for myself, I fully agree with them in this particular. But admitting, however, that hospital gangrene is contagious, like syphilis or small-pox, it might fairly be asked, what was the cause of it with the first man who was ever affected by the disease? This is a question of general etiology, which concerns all contagious diseases, and which we are not able to solve. Still I fully believe that hospital gangrene is contagious, and that it is communicated by actual contact. It has been known to arise in a wounded individual the very next day after his wound had been touched with a sponge or part of the dressings which had been used for another patient affected with the disease. Those surgeons who maintain that hospital gangrene is not contagious but epidemic, ground their opinion upon the fact of its breaking out upon several wounded patients in the same hospital, and at the same time; but there is an experiment which clearly shows the contagious nature of the disease. Place upon a wound, in a fair way of cicatrization, a little of the matter secreted by another wound affected with hospital gangrene, you will see the aspect of the first wound change in a few hours, and soon exhibit all the phenomena of this dreadful complication. Now, if we admit the doctrine of contagion, we are met by another and a very interesting question. What is, namely, this contagious principle? Of what nature is it? This has been answered in a variety of ways. Some have thought that it consists of an acrid principle in a state of fermentation. Others maintain that the contagious principle belongs to the organic world. This latter theory was propounded in 1814. But what is this organic principle? As

for myself, I am rather inclined to think that the contagious principle of hospital gangrene is composed of certain microscopic animalculi. We are surrounded by innumerable quantities of little beings, of which we can become cognizant but by the aid of the microscope; myriads of them swarm in every part of the creation! Are we, then, to be surprised that they should settle upon any part of our frame with morbid tendencies? The physical as well as the moral world offers a picture of a continued struggle between good and evil, between the great and the small. Only look at the cancerous molecule which is deposited in the very core of our organs; it is at first a mere atom, hardly cognizable to the senses, but this atom gradually enlarges, destroys all tissues it comes in contact with, and substitutes itself for the parts which it has annihilated. Only look at the worms which spring up in a mysterious manner on the surface of a corpse, and which multiply *ad infinitum*, by the destruction of the inanimate fabric! Why should matters proceed otherwise with hospital gangrene? Why should we not believe that the pulaceous and putrid matter, which is thickly deposited on the surface of wounds, without any preliminary or concomitant inflammation, is formed by an agglomeration of microscopic animalcules? There is an unknown agent at work here which has yet to be discovered; but whatever be its nature—whether it belong to the vegetable or animal kingdom—it is decidedly a manifestation of the great law by which we everywhere see the elementary principles contending with each other, and life struggling with death.

The prognosis of hospital gangrene is very unfavourable, for it disorganizes everything it touches, and the disorganization which it produces is so rapid, that it would be mortal if a well-directed treatment were not opposed to its destructive inroads. It should be attacked by topical applications, for it is at first a strictly local affection. Several among these have been highly extolled. Thus have charcoal and Peruvian bark, finely powdered together, as well as the vegetable and mineral acids, been much recommended. In certain cases, however, the disease goes on spreading with great rapidity, and destroys the patient, in spite of the most energetic treatment. The therapeutical means to which I give the preference are the vegetable acids, which I think more efficacious than the powder of bark and charcoal, and more to be depended on than even alum. Among these acids I generally use the citric, the doses being regulated by the greater or lesser hazard of the case. Thus I prescribed for the patient lying at No. 49, compresses dipped in the following lotion—citric acid, two drachms and a half; water, one ounce. This application has had the most beneficial effect; the whole of the morbidly altered parts are detached and thrown off, and the wound has assumed a reddish and vitalized aspect. The woman, whom I mentioned as being likewise attacked with hospital gangrene, is progressing just as satisfactorily. If the means which were here employed had had no effect, I would have cauterized the whole of the wound with the acid nitrate of mercury, as Dupuytren used to do; and I do not hesitate in using the actual cautery, when I find the grayish, pulaceous layer to be very thick. These different local applications should be aided by a general tonic treatment. Amputation is to be resorted to only in those cases where all the preceding means have proved unavailing in arresting the progress of the disease.

PHLEGMONOUS INFLAMMATION AND SINUSES.

As gunshot injuries are generally deeper than other wounds, so are they more frequently followed by inflammation reaching to a great depth, and by burrowing of matter and sinuses. The inflammation which is consecutive to gunshot wounds is of two kinds: it may, first, be limited to the track of the ball, and it is then not only devoid of danger, but quite necessary; and it may, in the second place, extend to the neighbouring parts. If the wound reach no deeper than the aponeuroses, the phlegmonous inflammation resulting from it will not extend any further; it will then be strictly superficial, and spread more or less, according as the textures where it is situated have more or less laxity. But if the wound run right through a limb, the phlegmonous inflammation will involve the intermuscular septa, will extend between the muscles, run up to their very origin, lay the bones bare, and bring caries or necrosis upon them. If this inflammation occupy the whole extent and depth of a limb, it will generally prove fatal. These deep and

diffuse inflammations are among the most frequent and most dangerous complications of gunshot wounds. They put the life of the patient in great peril—first, by the general reaction which they bring on, and which is sometimes sufficient to carry off the wounded individual; second, by the suppuration which they cause, the great amount of which rapidly exhausts the organism; third, by the propagation of the inflammation, which may extend to the veins and lymphatics, and bring on purulent absorption and deposits; fourth, by producing necroses of bones, and exposing the patients to their excision, or to amputation; fifth, by rendering (in cases of recovery) the least movements difficult and painful, in destroying the laxity and free play of muscular aponeuroses and synovial bursæ, by glueing all these parts together.

Such are the principal secondary complications of gunshot wounds. They conclude the general observations which I had to offer on the gravity and treatment of gunshot wounds, which the events that have just taken place have allowed you to study and to follow in all the varieties and stages which they can present. Vide *Report on Surgery*.

ART. 47.—*The Treatment of Erysipelas with Nitrate of Silver Ointment*.—M. Jobert states that he has obtained better results from the application of nitrate of silver with axungia, than from any other application in the treatment of erysipelas. Numerous cases are mentioned of the severer form of erysipelas having been treated in this manner in the Hôpital St. Louis, where the disease is very prevalent; and with invariable success. Four degrees of strength are employed, varying from two drachms of nitrate of silver to an ounce of axungia, to equal parts of the ointment and caustic. The ointment is applied twice a day, and after each application a thin layer is left on the affected surface, taking care that the entire inflamed surface and a short way beyond it are covered with it.

Gazette des Hôpitaux, May 11, 1848.

ART. 48.—*On the Prevention and Treatment of Bed-sores.*

By M. C. BERNARD, M. B.

(Condensed from *The Dublin Medical Press*, May 10, 1848.)

1. *Prevention of bed-sores*.—It is well known to every practitioner that, although the most timely precaution may be adopted, and the most skilful means directed towards their prevention, yet they will, in opposition to every exertion, make their appearance. We may succeed often by stimulating applications and other auxiliaries to interrupt their progress; yet so low are the powers of life in some cases, and so great the loss of nervous energy, that the parts subjected to pressure quickly fall into a state of sphacelus. To such an extent was this tendency manifested in one case which I had lately under my care, that not only the integuments and subjacent cellular tissue over the sacrum, spinal processes, and hips, sloughed, but even those parts of the body which come occasionally in contact (as the knees, &c.) were affected in like manner. To avert so great a calamity we must call to our assistance every available remedy. As a matter of the first importance we should be satisfied that the nurse in attendance on our patient has sufficient experience; as without proper attention on her part, and implicit obedience to the physician's directions, his best efforts will be frustrated. In protracted fevers the physician should not even depend on the nurse's watchfulness; he should make it a rule to examine daily those parts subjected to pressure.

When the first blush of unhealthy inflammation makes its appearance (which is indicated by a livid colour in the integuments) we should take care that all pressure from the parts be immediately removed. This can be done either by the patient's position being changed, or by the aid of bolsters or air-cushions; and if the case is one likely to be protracted, the hydrostatic bed of Arnott should be at once procured. The simple plan recommended by M. Purefoy (as lately described in the *Gazette Médicale*) is well worthy of the attention of the profession. He uses a cow's bladder softened in warm water; this being oiled, and partly inflated, is placed under the part suffering from continued pressure. The effect of this support (in a case of fractured leg) exceeded his expectations. He says, "from the moment the patient experienced the change, he cried out that he was

in heaven, and to the end of the cure of the fracture he felt no more pain, nor was the bladder changed but once during the month this was effecting. Another patient, who had gangrene from infiltration of urine, had to rest almost entirely on the sacrum for two months, and was saved any pain or ulcerations of the part by having placed under it a bladder, prepared as above, and wrapped in a towel." What renders this contrivance valuable is its simplicity and cheapness; it forms a very manageable substitute for the hydrostatic bed of Arnott, and will, I am convinced, add more to the comfort of our patients than a more costly article.

In addition to these preventives, others to stimulate the surface and excite the dormant capillaries to more healthy action, should be diligently used. The lotion recommended by Sir B. Brodie is admirable for this purpose. It consists of two grains of bichloride of mercury to an ounce of proof spirit. These two contrivances, if used at the same time, will be found invaluable in the prevention of bed-sores. The lotion of Sir B. Brodie, by its stimulating properties, will serve to thicken the cuticle and render it more efficient to resist injury; whilst the inflated bladder of M. Purefoy, by its softness and elasticity, will preserve an uniform pressure on the surrounding parts, and allow the free circulation of blood through the capillaries at the surface of the body.

2. *The treatment of bed-sores.*—The constitutional treatment is of the first importance in these cases; indeed any local application to the sores will prove of little use, unless we support the strength and give tone to the nervous system. In order to understand what constitutional treatment will best suit our patient, let us inquire into the general symptoms of such cases. We find them almost invariably in a state of exhaustion and extreme emaciation, the powers of life having sunk almost to the lowest ebb; the pulse quick and weak; the tongue furred or morbidly clean; the skin rough and dry; the nights are passed in a sleepless state from the pain and irritation of the sores; every motion of the patient is accompanied by the most excruciating torture; in fact, it is difficult to depict the misery which an individual suffers who is subjected to so great a misfortune. During this period the appetite is often voracious, but, strange to say, the food digested seems to impart little strength to the attenuated body.

In our treatment, therefore, we must not forget the irritative fever which exists, and the loss of nervous energy which attends this affection, to allay the one and restore the other. I look upon the exhibition of powerful sedatives as a *sine qua non* in the treatment. Dr. Graves, in his observations on this subject (published in the thirteenth lecture of his System of Clinical Medicine), recommends anodynes at bedtime. The pain and nervous irritation are, however, so great in many cases, more particularly during the second stage of these sores, that the greatest benefit will be derived from their exhibition at intervals during the day as well as at night. For this purpose I have been in the habit of prescribing, with the greatest benefit, one or two grains of the muriate or acetate of morphia, combined with Murray's fluid camphor at bedtime, and smaller doses during the day, whenever the pain would urgently demand its exhibition. Sulphate of quinine, or some other preparation of bark, ought also to be administered. When constipation exists, enemata with lukewarm water will prove to be the best aperient, as our object is to husband as much as possible the strength of the individual. A light and nutritious diet is best suited in such cases. Brandy or wine should also be given at intervals during the day, and in quantity according to the necessity of the case.

When the sores have made some progress towards healing, change of air may be ordered; gentle exercise in the open air, if at all practicable, will be also attended with the happiest results. An hydrostatic chair might easily be constructed of the same shape and construction as the bath-chairs in ordinary use. It is only necessary that the seat and back of the chair may be rendered waterproof. This can be accomplished by lining it with Mackintosh cloth, and filling the cavity with water after the manner of the hydrostatic bed of Arnott: whilst daily exercise in this chair will tend greatly to strengthen the constitution, and add to our patient's comfort and enjoyment, it cannot in any way protract the healing of the sores.

Local treatment.—The remedies should be varied according to the different stages of the sores. For practical convenience, we may divide the progress of

these ulcers towards reparation into three stages. In the first, we have a deep slough, analogous in some respects to the eschar artificially produced by caustic potash; this slough (according to the powers of the constitution) will take two or three weeks to be cast off. Whilst this progress is taking place, we should rather assist than interfere with the salutary efforts of nature. Stimulating applications will now be found most useful. A carrot-poultice should be applied every morning and evening. A solution of chloride of soda may also be sprinkled on the poultice to decompose offensive effluvia. The patient should be enjoined to lie on the face to take off pressure from the sores; if this is not practicable, bolsters, air-cushions, or bladders, inflated and oiled, must be used with a similar intent.

When the slough falls out, a deep unhealthy-looking ulcer is presented to our notice, forming the second stage of these sores. This ulcer is generally round or oval. The integuments at the circumference are undermined, so that you can readily pass a spatula beneath them, showing that the subjacent cellular tissue had lost its vitality even to a greater extent than the cuticle. The margin of the ulcer is consequently found to overlap its base. The base presents a flabby, uneven surface without granulations, and interspersed with shreds of adherent slough. From this surface a thin sero-sanguineous or ichorous discharge is secreted, having a most fetid odour. In order to promote healthy granulation, and stimulate the parts to cast off the remaining shreds of slough, warm dressings, consisting either of equal parts of gum elemi and spirits of turpentine, or of castor oil and Peruvian balsam, may be applied, dipped in lint, to the bottom of the ulcer, and a linseed-meal poultice, spongio-piline, or a carrot-poultice, placed over them. After a few days the ulcer will assume a more florid appearance, and show a disposition to form granulations. It will now be necessary to make a change in the dressings. At this particular stage we may hear of many vaunted remedies and old women's cures spoken of as specifics, consisting of ointments that take twenty days to make, lotions, and poultices innumerable. Suffice it to say, that the simple means I have used at this stage have answered all my expectations, and have added more to my patient's comfort than all the greasy applications which are recommended for the same purpose. It consists in applying every morning, with a camel's hair brush, a solution of nitrate of silver (ten grains to an ounce of distilled water) to the flabby granulations, then covering the surface of the ulcer, and filling it up with fine carded cotton. A piece of oiled silk, large enough to cover both hips and sacrum, should then be placed over the dressings. The oil-silk thus applied serves a double purpose: it will, by preventing the evaporation of the discharge, keep the cotton soft, and permit its easy removal at each dressing; it will also add to the cleanliness and comfort of our patient, by preventing the bedclothes being soiled. Under this simple treatment, the surface of the ulcer soon begins to assume a more healthy appearance, the granulations at the margin become amalgamated with those at the base, until the cavity is filled up by luxuriant granulations.

We have now the third stage of these bed-sores to treat. As in the second stage our object was to stimulate the surface to healthy action, in this we have to control inordinate action and repress luxuriant granulations. A concentrated solution of sulphate of copper (applied every morning) will be found most useful for this purpose. The carded cotton and oil-silk, as above recommended, may be also continued until the ulcer is perfectly healed.

ART. 49.—*Collodion, a newly-discovered Adhesive Fluid, a Substitute for Sutures and Adhesive Straps.*

(From *The American Journal of the Medical Sciences*, April, 1848.)

We have been shown by a young medical student, Mr. George P. Maynard, of Boston, a liquid adhesive substance, which he has introduced as a substitute for the common adhesive plaster, and over which it seems to us to possess many advantages, and to be applicable to many cases in which the latter is not. It is formed by treating cotton with nitric and sulphuric acid, then washing the substance thoroughly, and afterwards dissolving it in pure sulphuric ether.

In a letter to Dr. John D. Fisher, read before the Boston Society, Mr. Maynard states that he has used the adhesive liquid, and seen it used by his preceptor, Dr.

Whitney, in more than one hundred cases of surgery, some of them serious, and in all successfully.

The mode in which it was used in these cases, varied according to the nature, size, and situation of the wound. In slight cuts, a moderately thick coating of the solution laid over the incised parts was, on becoming dry, sufficient to keep the lips of the wound in position till union took place; but in most instances it was applied in conjunction with straps of cotton and sheep-skin, and with raw cotton, forming with them strong, unyielding, adhesive straps, bandages, and encasements; and, after many experiments, I am convinced that this is the best and most effectual way in which it can be employed as an adhesive agent in surgery. The solution dries rapidly, and in a few seconds, by the evaporation of the ether it contains, it becomes solid and impermeable to water; and a strap moistened with it and glued to any part of the cutaneous surfaces, adheres to it with a tenacity truly surprising.

In proof of this, I will mention the following facts: a strap of sheep-skin, glued to the hand by a thin layer of the solution, nine lines long and one and a half wide, sustained a weight of two pounds. A second strap attached to the hand by a layer of the substance, nine lines in length and three in width, sustained a weight of three pounds. A third strap, fixed to the hand by a layer of the liquid, twelve lines square, resisted the force of ten pounds without giving way; and a fourth strap of the leather, glued to the hand by a stratum of the solution, measuring one and three-fourths of an inch in length, and one in width, was not separated from its attachment by the gravity of twenty pounds. These statements may appear incredible; but they are founded on exact and carefully performed experiments, and are true. No other gum possesses such adhesive power as these experiments show this cotton gum to be endowed with. No adhesive plaster hitherto used in surgery is to be compared with it in this respect. It, therefore, can be made use of in cases in which the common adhesive plaster would be useless.

The wonderful adhesive properties which my experiments proved it to possess suggested the thought that it might answer the purpose of sutures in surgery. And an opportunity soon occurred to enable me to decide the fact that it would. I allude to the operation performed by Dr. Whitney, for the removal of a wen from the head. Fearing that an erysipelatous inflammation might arise in the scalp, in case he united the divided parts by sutures, Dr. Whitney shaved the hair from the raised scalp, and, by means of the cotton solution, he glued some short and narrow straps of sheep-skin on each flap, a short distance from their edge. These straps were then drawn towards each other, until the edges of the wound were brought into close and exact union, and the free ends of the straps were fastened together by sutures. In this case the needle and thread were passed through *inanimate leather*, instead of *living flesh*, causing no pain to the patient, and no interruption to the process of healing. The wound healed favourably, and without the usual accidents necessarily occasioned by the presence of sutures in, and the operation for their removal from, the parts. The happy result of this case convinced me that a means was now discovered which would enable the surgeon to do away with sutures, pins, and needles, in most of the cases in which these are at present considered indispensable.

Although unauthorized to do so, I must take the liberty, in this place, to mention the interesting fact that Dr. Comstock, of Wrentham, has recently employed this liquid as a dressing, in a case of extensive laceration of the perineum, with a success that he thinks never attended any other mode of management. The dressings remained firmly attached and solid during the process of healing, notwithstanding they were for a time almost constantly covered by urine and mucus, and subject to being displaced by the movements of the patient.

[Mr. Bullock, of Conduit street, manufactured some of this article at our suggestion. It is, at first, an opaline adhesive fluid, smelling strongly of ether, and becoming perfectly transparent by the deposit of a tenacious shreddy material on remaining at rest. The supernatant fluid retains the adhesive property; by spreading it over the skin with a camel's hair pencil the ethereal menstruum rapidly evaporates, and a transparent coating is left of greater or less thickness. When dry, it somewhat resembles goldbeaters' skin, but is far more transparent. We have employed it in several cases of simple incised wounds with perfect success.

Since the above extract was sent to press, we have made a novel application of this discovery for the cure of toothache and stopping decayed teeth. A piece of fine cotton, thoroughly soaked in the transparent fluid, and then inserted into the hollow of the tooth, previously cleansed and dried, has been followed by complete relief to the toothache, and has maintained its position for several weeks.—H. A.] *Vide Report on Surgery, in the present Volume.*]

ART. 50.—*New Mode of Resection of the Bones.*

By LE CHEVALIER BERNARDINNO LARGHI.

(From the *Giornale delle Scienze Mediche di Torino.*)

The method proposed by the author consists in removing the osseous portion only, and preserving the periosteum, from which it is to be reproduced. We know the importance of this reproduction, which never takes place in resections in which the bone and the membrane are removed together. This practice, without having been reduced to a method, as the author wishes, has still been once tried with advantage by M. Blandin. This professor, having to remove a portion of the clavicle, carefully preserved the periosteum, and the portion of bone separated was rapidly reproduced. M. Larghi is wrong, then, in accusing surgeons in the mass of never having thought of the reproduction of the bone in their resections. The following is the operation which he recommends:

In the first place, we must injure the periosteum as little as possible, and confine ourselves to dividing it no further than is necessary to allow of the extraction of the osseous portion.

If the portion of bone to be separated is short, make a longitudinal incision parallel to the length of the bone to be divided: this incision should penetrate through the muscles to the osseous portion required to be taken out. The periosteum divided, detach it from the osseous portion, which is easy; for it is already in part done by the gelatinous liquid which nature has secreted for this very purpose; then pass a riband round the bone, with the aid of a flexible needle; then produce traction on the bone by means of this riband. The muscles inserted into the periosteum act on their side in a contrary way; and from this antagonism results the complete separation of the bone from its periosteum. We may facilitate this operation, if necessary, by injections of warm water. The osseous portion once isolated, we effect the resection. If the osseous portion to be extracted is long, the process we have described must be resorted to at each of its extremities. When these are isolated from the periosteum, their resection may be effected, and with a little force the whole of the osseous portion can be easily drawn away. Still it would be possible to extract a long bone by means of two small incisions made at its two extremities, which should penetrate from the skin to the bone, keeping intact not only the portion of periosteum comprised between the two incisions, but also the other parts, without even excepting the skin.

Dr. Larghi has several times applied this method with success in many patients, especially in the resection of a portion of the eighth and of the ninth rib, a great part of the right humerus, the ileum, and the forearm.

Nouvelle Encyclographie des Sciences Médicales, Feb. 1848.

ART. 51.—*On the Necessity of Excision in Cancer of the Lip.*

By CHARLES FLUDER, Esq.

(Condensed from a Letter in the *Medical Gazette*, May 26, 1848.)

The object is to direct attention to a most important fact, already perhaps known to many, but not duly acted on—the certain fatality of cancer of the lip, if left to its own course, or if treated in any other way than by excision; and the necessity of, and more especially the almost certain cure consequent on, that measure.

In the course of rather more than twenty years of practice, it has been my lot to observe very many of these cases; on the one hand proving what I fear cannot be said of scirrhus at other parts of the body, the real utility of excision; and, on the other hand, as clearly demonstrating the certain melancholy fatality conse-

quent on reposing on other treatment, to the exclusion of the only real remedy, the knife.

The disease begins with some little wart or fissure, or abrasion, and it most commonly occurs on the lower lip. Before very long ulceration is perceivable, and induration, and the progress is much like scirrhus at other parts. One or two cases will be sufficient in illustration.

A few years ago a medical practitioner was on a visit to a gentleman in this country, on whose lip he one day accidentally observed a very small appearance of the sort above mentioned. He was told it had been there many weeks, and had not changed much in appearance, either for better or worse, notwithstanding various applications had been used. He advised excision, but others recommended the trial of various escharotics for several months; and beyond this, I believe, even still more delay occurred. At last, after an interval I imagine of nearly a year from the time that excision was first advised, the disorder becoming more formidable, it was decided in consultation that the time for an operation had passed, and the poor gentleman died a lingering and miserable death.

About seven or eight years ago a labouring man, resident in this neighbourhood, showed me a small ulcer in his lip, which he attributed to the adhesion of a tobacco pipe, while smoking. The ulcer had been there two or three months, and there was some hardness around it. He had applied leaves and ointment to it, without benefit, and lunar caustic had been used. I advised him to let me cut it out, but he declined. I met this man some six or seven months afterwards, when he again showed me his lip. The disease had increased, having become a hard tumour, about the size of a nutmeg, with an ulcerated surface. On this occasion I urged very strenuously the necessity of excision. He was unable to muster sufficient courage, and I again lost sight of him for several months. He then came a third time. I examined the poor man again; but the disease had extended too deeply. The submaxillary and sublingual glands were contaminated; the tongue itself was assuming a morbid appearance, and it was decided, by others as well as by myself, that an operation could be of no avail. This poor creature perished in the most horrible manner; not, however, until the deadly parasite had gnawed its way through the mouth to the pharynx and œsophagus.

On the other hand, I have around me many cases (and I know of many more) in which the operation has been performed ten, fifteen, and eighteen years ago; and though in all of these the operation was only had recourse to when there was no mistake as to the malignity of the disease, in none has it returned.

Whether the disease in question be or be not true scirrhus, is not a point for me to determine. One thing to me is certain, that there is a disease of common occurrence in the lip, watery or ulcerative, with induration, trifling at first in its appearance, insidious in its progress, but fearfully fatal in its result; which, if treated by excision, rarely, perhaps never, returns—if otherwise, leads invariably to a painful death.

The operation is sufficiently simple. A triangle of lip must be taken out, the base of which triangle is formed by the surface of the lip, with the tumour or ulcer on it. The incisions are best made with a bistoury, extending beyond the induration on each side of it, so that the apex of the triangle may be thoroughly clear of induration. A semicircular incision has been recommended around the induration, but this is not so good as the triangular operation. The wound is much longer, healing by granulation, and leaves a worse lip; indeed, it is astonishing how very little deformity or inconvenience arises after the triangular operation, two or three small sutures, strapping, and a light bandage being all that is required in the way of dressing.

An ulcer or wart, or tumour of the lip, of suspicious appearance, may be treated by caustics or escharotics for a short time; but if the disease gives evidence of increase instead of diminution, it is unjustifiable to delay excision until the adjacent textures are implicated, because of this exceedingly important fact—that what is malignant here, unlike malignant disease of other parts of the body, is at an early period entirely under the control of the knife. In short, that scirrhus at this part is capable not of extirpation only, but of extermination.

ART. 52.—*The Treatment of Venereal Diseases.*

(Lancet, June 24, 1848.)

Formulary of the Hôpital du Midi, as collected by the Reporter of M. Ricord's Lectures in the Summer of 1847.

NON-VIRULENT DISEASES.

1. *Injection for balanoposthitis.*—Make three injections a day between the glans and prepuce with the following fluid:—Distilled water, three ounces; nitrate of silver, two scruples.

2. *Abortive treatment of blennorrhagia.*—Make one injection only with the following liquid:—Distilled water, one ounce; nitrate of silver, fifteen grains. And take every day, in three doses, the following powder:—Cubebs, one ounce; alum, thirty grains.

3. *Injection for blennorrhagia when the period for the abortive treatment is passed.*—Make three injections daily with the following liquid:—Rose-water, six ounces and a half; sulphate of zinc, and acetate of lead, of each, fifteen grains.

4. *Internal treatment of blennorrhagia.*—Take one tablespoonful of the following emulsion three times a day:—Copaiba, syrup of tolu, and syrup of poppies, of each, one ounce; peppermint-water, two ounces; gum arabic, a sufficient quantity; orange flower-water, two drachms.

5. *Acute stage of blennorrhagia.*—Twenty leeches to the perinæum; bath after the leeches; refreshing drinks; rest in bed; low diet; suspensory bandage. Take one of the following pills four times a day:—Expressed and inspissated juice of lettuce (*lactuca sativa*), and camphor, of each, forty-five grains; make twenty pills.

6. *Gleet.*—Make every day three injections with the following liquid:—Rose-water, and Roussillon wine, of each, six ounces; alum and tannin, of each, ten grains.

7. *Subacute epididymitis.*—Rub the testis twice a day with the following ointment:—Stronger mercurial ointment, and extract of belladonna, equal parts of each; a poultice to the part after the ointment, and rest.

8. *Acute epididymitis.*—Fifteen leeches to the perinæum, and the same number in the groin corresponding to the affected epididymis; bath after the leeches; barley-water for common drink; low diet, rest, and poultice.

9. *Chronic epididymitis.*—Apply Vigo's plaster to the testes, and wear a suspensory bandage. (Simple plaster, yellow wax, pitch, ammoniacum, bdellium, olibanum, mercury, turpentine, liquid styrax, and volatile oil of lavender, are the component parts of Vigo's plaster.—Reporter of Lectures.)

VIRULENT DISEASES.—PRIMARY SYMPTOMS.

CHANCRES.—10. *Abortive treatment of chancre.*—Within the first five days of the contagion, destroy the chancre with potassa fusa cum calce (*pâte de Vienne*).

11. *Regular non-indurated chancre.*—Frequent dressing with the aromatic wine,* extreme cleanliness, occasional light cauterization with the nitrate of silver. Rest, demulcent drinks; when there is inflammation, antiphlogistics, purgatives, and emollient applications. (N.B. No mercury.)

12. *Phagedæmic chancre.*—Complete cauterization with the nitrate of silver, the liquid nitrate of mercury, the potassa cum calce, or the hot iron, according to circumstances. Afterwards lotions with aromatic wine, three ounces; extract of opium, three grains; or, aromatic wine, eight ounces; tannin, thirty grains; or, distilled water, three ounces; tartrate of iron and potash, four drachms; or, in the scrofulous diathesis, distilled water, three ounces; tincture of iodine, one drachm; or, sulphur ointments, and sulphurous baths. Internally—tartrate of iron and potash, one ounce; distilled water, eight ounces. One ounce three times a day.

* Aromatic wine, (Parisian codex.) Aromatic species, (viz. the dried tops of the sage, balm, thyme, wild thyme, marjoram, hyssop, peppermint, wormwood,) two parts; vulnerary spirit, (viz. alcoholic distillation of *anthyllis vulneraria*, *origanum*, *gnaphalium dioicum*, *arbutus uva ursi*, and several others, known under the name of vulnerary flowers, and largely exported through Europe, by the Swiss, for popular purposes,) one part; red wine, sixteen parts. Macerate for a few days, then filter.

13. *Indurated chancre*.—Three dressings a day with the following ointment:—Calomel, one drachm; axunge, one ounce. (N.B. Mercury is used internally for the *indurated chancre*: as to the mode of administration, see secondary syphilis, No. 21, as the metal is given in the same manner in both cases.)

BUBOES.—14. *Acute non-specific adenitis, or inflamed bubo*.—Twenty leeches on the tumour, emollient cataplasms, barley-water as ordinary drink, rest, broths. If fluctuation be detected, let out the purulent matter by a free incision.

15. *Abortive treatment of the bubo consecutive, by absorption of the virus, to the non-indurated chancre*.—Deep cauterization, of ten minutes' duration, with the *potassa fusa cum calce*, and await the fall of the eschar. (N.B. Analogous to the early destruction of chancre.)

16. *Bubo consecutive to the non-indurated chancre, which inevitably suppurates*.—Use antiphlogistics according to circumstances, and then free the purulent matter by cauterization with *potassa fusa*; gradually destroy afterwards, by the use of caustics, the glandular mass which lies at the bottom of the open bubo. To the poultices used after cauterization may be added an ointment of equal parts of extract of belladonna and mercurial ointment.

17. *Horse-shoe bubo and gangrene*.—Horse-shoe and phagedænic ulcers in the groin, resulting from a suppurating bubo, require the dressings mentioned in No. 12. *Gangrene*:—Chloride of lime, one ounce; distilled water, three ounces. This lotion is to be used several times a day. Or. powdered charcoal, powdered Peruvian bark, equal parts of each, to be thickly applied to the sore.

PREPUTIAL COMPLICATIONS.—18. *Phimosis*.—Inject between the glans and prepuce the aromatic wine with opium, as mentioned in No. 12, and use emollient and sedative applications; if gangrene be imminent, operate.

19.—*Paraphimosis*.—Keep the organ raised, and surround it with cold compressors. Bland diet, refreshing drinks; endeavour to reduce or free the constriction by an incision, according to circumstances. After the strangulation is relieved, use emollient and antiseptic applications, combined with opium.

SCROFULOUS COMPLICATIONS.—20. Order every day the following emulsion in three equal doses:—Iodine, three grains; oil of sweet almonds, one ounce; gum arabic, a sufficiency; almond emulsion, three ounces.

SECONDARY SYPHILIS.

21. Order every day three tumblers of decoction of saponaria leaves, and put into each tumbler one tablespoonful of sirop de cuisinier, (N.B. Sirop de cuisinier: sarsaparilla, borage and white rose leaves, senna, aniseed, honey, and sugar;) and take every day one of the following pills:—Proto-iodide of mercury, inspissated juice of lactuca sativa, of each, forty-five grains; extract of opium, fifteen grains; extract of hemlock, one drachm and a half. Mix, and make sixty pills.

22. *Slight Stomatitis*.—To gargle three times a day with the following liquid:—Decoction of lactuca sativa, five ounces; honey, one ounce and a half; alum, one drachm and a half.

23. *Mercurial Stomatitis*.—To gargle three times a day with the following liquid:—Decoction of lactuca sativa, five ounces; honey, four drachms; hydrochloric acid, fifteen drops.

24. *Salivation*.—Order every day one drachm of flowers of sulphur, incorporated with honey. As a common beverage, the nitric acid lemonade. Gargle three times a day with decoction of lactuca sativa, five ounces; honey, four drachms; hydrochloric acid, fifteen drops.

25. *Mucous patches in the mouth*.—Gargle three times a day with decoction of hemlock, six ounces and a half; bichloride of mercury, three grains.

26. *Mucous tubercles around the anus (condylomata)*.—Put twenty leeches to the perinæum. Take every evening a small enema of a decoction of poppy-heads, cold, and mixed with twenty drops of laudanum. As an habitual beverage, take linseed tea, sweetened with sugar-and-almond emulsion.

27. *Vegetations*.—Put twice a day on the vegetations the following powder:—Powdered savine, oxide of iron, calcined alum, of each one drachm.

TERTIARY SYPHILIS.

28. Order one tumbler of decoction of saponaria three times a day. In each tumblerful put a tablespoonful of the following syrup:—Syrup of sarsaparilla, one pint; iodide of potassium, one ounce.

ART. 53.—*Enterotomy for the Relief of Obstructed Intestine from a Tumour at the Lower Extremity of the Sigmoid Flexure of the Colon.* By B. M. A. DIDOT.

(*Bull. de l'Acad. Roy. de Belgique*, vol. vi, and several British Journals.)

The following is another successful example of the employment of M. Amussat's operation, the establishment of an artificial anus in the lumbar region for the relief of obstructed bowel.

A man, æt. 65, had suffered from great irregularity of the bowels for about four years, extreme constipation, varying with severe attacks of diarrhœa. For above a year these symptoms had been accompanied with a dull pain in the hypogastric region, which had latterly become more severe, and of a lancinating character, and no evacuations could be obtained by the use of strong purgatives and enemata; and even by these means the quantity of feculent matter evacuated was very small. His sufferings at last became extreme; the abdomen was enormously distended; and, worn out by constitutional irritation and suffering, he was most anxious for relief by any means.

On introducing the finger as far as possible into the rectum, the obstruction was found to be caused by a hard tumour, of the size of a large billiard ball, situated about the lower extremity of the sigmoid flexure of the colon. As the perforation of the intestine above this point was the only chance of giving vent to the accumulated fæces, by which the colon was enormously distended, this operation was immediately recommended to the patient, and was performed in the following manner:

The patient being placed on his belly, an incision, three inches in length, was made transversely in the left lumbar region, half way between the crest of the ileum and the false ribs. After dividing the muscular layers and the fascia transversalis to an equal extent with the first incision, the back part of the colon, where it is not covered by peritonæum, was exposed.

Two needles were then made to transfix the intestine, each armed with a ligature, by means of which the intestine was gently drawn forwards towards the mouth of the wound, and a crucial incision, about an inch in length each way, made through the coats in the space between the ligatures. An enormous evacuation of fæces followed the first perforation of the intestine, and the cut edges of the bowel were drawn out by the ligatures through the wound, during the evacuation of the pent-up contents of the colon. The edges of the intestine were then attached to the skin by five points of suture. A poultice was applied over the opening; and complete and immediate relief was obtained by the patient from his protracted sufferings.

The fæces continued to be evacuated freely by the artificial opening; and eighteen days after the operation a small quantity was evacuated by the natural exit. Some days afterwards blood and purulent matter were evacuated by the anus; and on examination with the finger in the rectum, the tumour was found to be ulcerated in several points. Two months after the operation the patient is stated to have improved so much in health as to be able to move about with comfort, and to have gained flesh.

No further mention, however, is made of the state of the artificial anus or of the progress of the disease. The case is important, as showing the relief and prolongation of life which may be obtained from the performance of this operation. M. Amussat is said to have adopted this proceeding in eleven cases, in all of which similar good results to these here mentioned have been obtained.

ART. 54.—*Removal of a Foreign Body from the Duct of Wharton.*

By Dr. H. F. CAMPBELL.

(The Southern American Medical Journal.)

A nurse, æt. 14, while engaged at work, with a pin in her mouth, felt pain under the tongue, and endeavoured to remove the pin; but on feeling for it, could only find the *point* protruding at the side of the frænum linguæ. Her efforts to extract it by the point caused it entirely to disappear; becoming alarmed, she called for assistance. On examination there could not be seen the least trace of any foreign body whatever: she said that "the pin was under her tongue, in the flesh *head foremost*." It gave her no pain, except when disturbed with the fingers; the orifice of the Whartonian duct was patulous, and some saliva was flowing from it. On applying the finger to the floor of the mouth, the pin could easily be felt near to the base of the lower jaw; though from the distance to which the head had proceeded towards the caecal extremities of this duct, it was impossible to protrude it by applying pressure from behind; and further, from the handling to which the parts had been subjected, the point had been pushed out of the direction by which it entered, and having pierced the side of the duct, was resting on the alveolar process. It was very moveable, and receded on the slightest pressure.

Failing of its removal by manipulation, the following method was adopted:—Its exact situation being ascertained, the object, together with the parts surrounding it, was seized by the forefinger of the left hand in the mouth, and the thumb in the digastric region, and pressed outward against the inner surface of the lower jaw under the alveolar projection; a tenaculum was then introduced from within outward through the mucous membrane (avoiding the situation of the gustatory nerve, which near this place crosses the duct), so as to inclose the duct and hold the pin fixed; on elevating the tenaculum, the point of the pin became prominent about three lines posterior to the orifice of the duct. The mucous membrane and coats of the duct being cut through with a scalpel, the pin was removed with the dressing forceps by the *point*, which protruded through the opening of the incision. A copious discharge of saliva followed its removal. The incision healed rapidly, and the patient recovered without any trouble. The pin was $1\frac{1}{4}$ inches in length.

ART. 55.—*The Treatment of Callous Ulcers.* By JAMES SYME, Esq.*(Contributions to the Pathology and Practice of Surgery.)*

A large blister over the sore and neighbouring swelled parts of the limb has the effect of speedily dispersing the subcutaneous induration and thickening, so as to relax the integuments, and thus remove the obstacle to healing action. In the course of a short time, seldom exceeding a few days after the blister has been applied, the surface of the ulcer, however deep it may have been, is found to be on a level with that of the surrounding skin, not of course through any process of reproduction or filling up, but merely from the removal of interstitial effusion, allowing the integuments to descend from the position to which they had been elevated, as may be readily ascertained by measuring the circumference of the limb before and after it has undergone the effect of blistering. But, along with this change of form, the ulcer in other respects no less speedily acquires the characters of a healing sore, assuming a florid colour, affording a moderate discharge of purulent matter, and presenting a granulating surface, with surrounding margin of cicatrizing pellicle. No subsequent treatment beyond the attention requisite for ensuring quiet and cleanliness is needed, and recovery is completed, not only more quickly, but with much less tendency to relapse than when accomplished by other means.

The facility, rapidity, economy, and lasting effect of this treatment, seem to give it a decided advantage over the other methods in use; and, so far as I am aware, no one who has tried the plan ever afterwards hesitated to employ it in preference to any other. In order to derive the full amount of benefit, the practice must be carried fairly into effect, and the principle upon which it is founded should be distinctly understood. The enlargement of the limb being of secondary formation,

and resulting from the continued irritation of a sore allowed to remain unhealed through neglect or improper treatment, when once established, prevents the contraction of granulating action, by which alone solutions of continuity, not within reach of union by simple adhesion, admit of reparation. Pressure, the horizontal posture, and all other means that tend to remove the obstacle thus presented, will promote the patient's recovery. But of all the means that can be employed for this purpose, blisters appear to be the most efficient, and should, therefore, be employed for the remedy, not only of the purely indolent and callous ulcer, but of other kinds, which, in addition to their own peculiar characters, show evidence of complication with indurated enlargement of the limb. From this condition it is hardly necessary to mention that the œdematous swelling of weakness and impeded circulation must be distinguished.

ART. 56.—*Contraction of the Muscles of the Legs, Feet, and Toes, probably resulting from a Rheumatic Affection—Consecutive Deformity of these parts—Cure by Tinotomy and Orthopedic Apparatus.* By M. ROBERT.

(Condensed from the *Gazette des Hôpitaux*, Nov. 17, 1848.)

A woman, æt. 27, was taken all at once, during her sleep, with a very acute pain in the right leg, which in the morning she could not raise. A few days afterwards similar pains occurred in the lower part of the left leg, whence they radiated throughout the whole limb. Three months afterwards the legs were bent slightly on the thighs, the feet were in state of extension; and in the left foot especially, the four last toes were retracted and bent in the form of a crochet. In July, 1848, three or four months after the contraction, the pain ceased a little, but the parts remained in the deformed position which they had assumed; the inferior limbs became obviously atrophied.

November 20, 1846. To recapitulate the series of symptoms actually present, it appears—

1st. That the leg, the feet, and the toes are in an unnatural and fixed position. 2dly. That the cause of this is not attributable to any disease of the articulations, since motion is possible, and within certain limits without pain; and since articular disease cannot be traced in any part. 3dly. That this state is attributable to the shortening of certain muscles, as demonstrated by the projection and tension of the tendons of these muscles, when by moderate traction we attempt to separate their attachments. The muscles affected are the gastrocnemii and solaris, the long flexors of the toes, the tibialis posticus, and the flexor of the great toe in a slight degree; in a word, all the muscles of the posterior aspect of the leg. 4thly. The muscles which are thus shortened are at the same time affected with a certain degree of atrophy. This state of muscles has been designated by the term muscular retraction. It is characterized—1st, *physiologically*, by the permanent shortening of the muscle, and the impossibility of stretching it to its original length; 2d, *anatomically*, by the diminution of the volume of the muscle, the atrophy of its fleshy portion, the fibrous portion not being altered, and thus becoming more apparent and proportionally larger; a circumstance which has led some observers to believe that the fibrous portion has really increased at the expense of the muscular portion.

Muscular retraction is not a primary alteration of the muscles. It is most frequently preceded by a state of contraction, which has some analogy with the contraction determined by the will, in this point of view, that the muscle is found in the organic conditions which it presents during voluntary contraction; shortening of the muscle effected at the expense of the fleshy portion, which gains in thickness what it loses in length; but which, in a state of retraction, is involuntary, continuous, and sometimes painful, especially when any endeavour is made to overcome it by traction.

Muscular contraction may cease spontaneously, or by an appropriate treatment; and if it has not continued too long, the muscle recovers its natural length; but if it is of long standing, and the muscle has become atrophied, the muscular fibre undergoes the change which I have pointed out; the muscle becomes, in reality, shorter, and gradually assumes the characters of muscular retraction.

Thus contraction is a tonic, dynamic, perhaps inflammatory shortening, which may subside; whilst retraction, the effect of contraction, and perhaps also of the

absolute immobility in which the muscle has been placed, is an organic permanent shortening.

In this case there is no trace of any nervous affection, whether congestive, convulsive, or spasmodic; the contraction of the muscles of the calf alone can be only a local affection. Sometimes the muscles become the seat both of contraction and retraction, because they are in the neighbourhood of inflamed parts; but in this case nothing of the kind occurred. Rheumatism is unquestionably the cause of contraction. I have seen, M. Robert remarks, many examples, especially in the sterno-mastoid muscle, and the lateral muscles of the neck; it appeared also to be the cause of the contraction in this patient. In fact, this young woman inhabited for three years a very damp lodging. Her health was greatly altered by it, and she was chlorotic; when all at once she was taken with pains, first in one leg and then in the other. The pains were followed by the deformity of the limbs. Here we recognise both the cause and the progress of rheumatism.

There are only two means of restoring the retracted muscles to their usual length.

1st. By a permanent force on the two attachments of the muscle, so as, gradually, slowly, and mildly, to return it by degrees to its natural state. Orthopedy will furnish us with the means to obtain this end; but it will suffice only in cases in which the affection is but slight, and not of long standing. In this patient the long flexors of the toes would be acted upon with difficulty. 2dly. By tenotomy, which has the advantage of obtaining, in a few days, and much more easily, the effects of orthopedy. At all times, since the change from contraction to retraction is slow and insensible, we should first employ, especially in cases which are not of long standing, baths, douches, frictions, &c.

Tenotomy is the method *par excellence*, in these affections. After the employment of the measures indicated in the case in question, a section was made of the left tendo-Achilles. An apparatus was then applied to adjust the feet; but the adjustment could not be effected, the pain being extremely violent in the trials which were made, and other mechanical obstacles presented themselves. M. Robert then resorted to section of the other tendons of the leg and feet, and especially of the plantar aponeurosis. After these operations the feet could be adjusted; and with the aid of the orthopedic apparatus, successively had recourse to, the result was a complete cure. The patient, it is true, kept in bed about three months, but she quitted the hospital in a most satisfactory state. We saw her several months afterwards, and found her fat, and walking easily without any kind of support. This is one of the splendid results which we have observed of the operation of tenotomy resorted to in these cases of deformity.

ART. 57.—*Mode of Reducing Dislocations of the Humerus at the Bristol Infirmary.*—Without any preliminary treatment, the patient is seated sideways on a firm chair, with his arm hanging over the back, which is well padded, one end of a double or reel-towel is passed through the other end, so as to form a noose, which is applied to the arm just above the elbow. The loose depending part of the towel forms a stirrup, into which the surgeon places his foot, and gradually brings his whole weight to bear on the towel, as an extending power. One or two assistants are useful to press back the acromion, and keep the patient firmly in his seat. The reduction is effected almost immediately, and, if due precaution be observed in properly padding the chair, and the arm where the towel is applied, little or no pain is felt, nor any subsequent inconvenience from the pressure.

Prov. Journal.

ART. 58.—*The Treatment of Aneurism by Compression—Corollaries.*

By Dr. BELLINGHAM.

(*Dublin Medical Press*, Jan. 20, 1848.)

1. The arteries to which compression is applicable being far more frequently the subject of aneurism than those to which it is inapplicable, compression is calculated to supersede the ligature in the great majority of cases.

2. The cure of aneurism by compression upon the artery between the aneurismal sac and the heart, according to the rules laid down here, is accomplished by the gradual deposition of the fibrin of the blood in the sac, until both the latter and

the artery at the part are completely filled. The process is in fact exactly similar to that by which nature effects a spontaneous cure of aneurism.

3. Such an amount of pressure as would cause inflammation and adhesion between the opposite sides of the artery at the point compressed is never required.

4. The pressure should not be so great as to interrupt the circulation in the artery at the point compressed; an essential agent in the cure being that a current of blood should pass through the sac.

5. Compression by means of two or more instruments, one of which is alternately relaxed, is much more effectual than by any single instrument, and in many instances the pressure can be maintained by the patient himself.

6. The treatment of aneurism by compression does not involve the slightest risk to the patient, and if persevered in cannot fail of effecting a cure.

7. A cure of aneurism effected by compression, according to the rules laid down here, must necessarily be permanent; and in every case in which a cure has been accomplished, the patients have remained well subsequently.

8. The femoral artery remains pervious after the cure at the point at which the pressure had been applied, and no morbid change of any kind is to be detected in either the artery or vein at the side of the compression.

9. When a cure is effected by compression, the vessel is obliterated only at the seat of the aneurism, and the artery at this part is eventually converted into an impervious ligamentous band.

10. Compression effects the cure of aneurism by more simple and safer means than the ligature, while it is applicable to a number of cases in which the operation is contraindicated or inadmissible.

11. Compression is not necessarily a more tedious or more painful method of treating aneurism than the ligature, while it is much more certain, more likely to be permanent, and is free from all danger.

12. Compression, according to the rules laid down here, has little analogy with the old method which went by this name; and in fact has no greater resemblance to it than the Hunterian operation had to the operation for aneurism which it superseded.

ART. 59.—*Successful Amputation at the Hip-joint—Employment of Ether.* By M. HÉNOT, of Metz—In a memoir presented to the Academy of Medicine of Paris, M. Hénot relates the case of an hospital servant (male), 26 years of age, who had a large exostosis of the right femur, involving the bone as high as the trochanters. There was also disease of the medullary cavity with perforating fistulas of the bone, abscesses of the thigh, and hectic fever; under which circumstances amputation at the hip-joint was proposed as the only means of saving life. The operation chosen was that of Bèclard, by anterior and posterior flaps, but the posterior flap was prolonged by a third, and the anterior shortened, so as to bring the cicatrix more in front. Ether was inhaled by the patient previous to the operation, which, with the ligatures of the arteries, was accomplished in 5½ minutes, and was quite unattended by pain. The wound was brought together by six points of interrupted suture; it was ten inches in length. Four-fifths of it healed by the first intention; the remainder was kept open by a moderate suppuration, which continued six weeks, and then declined insensibly, permitting of the complete cicatrization of the wound on the ninetieth day from the operation. The ligatures came away from the eighteenth to the forty-fourth day. The process of cure was entirely satisfactory, and the result was an excellent cushion of flesh for the application of artificial means of support.

Archives Générales de Médecine, Dec. 1847.

ART. 60—*The Employment of Gutta Serena in Surgery—Its Use in Club-foot, Simple and Compound Fractures, Necrosis, Amputations, Diseased Articulations, &c.* By W. LYON, Esq., sen., Surgeon to the Glasgow Royal Infirmary.

(Condensed from *The Monthly Journal*, August 1848.)

Club-foot. I have now employed this article very successfully in several cases, seen it used in others, and write this to bring it under the notice of the profession, convinced, after numerous trials of all the other methods, that it is by far the most

manageable and effectual, and that it will enable every one possessed of even the least dexterity successfully to conduct the treatment of club-foot; thus getting rid of the cumbrous, complicated, troublesome, and expensive apparatus in ordinary use, and enabling us to confer equal advantages on the poor as were mainly confined to the rich, and by which surgeons in situations remote from instrument-makers may, with the utmost facility, treat these species of deformities.

It may be applied in various ways; but the method I have followed is this: they were all cases of *tulipes varus* in both feet; and after dividing the tendo-Achillis, a procedure probably not required in very slight cases, but if not indispensable, at least greatly abbreviating the treatment in severe ones; a bit of plaster was put on the wound, and a roller from toes to knee for protection of the soft parts.

A bandage of gutta percha, the thickness of a penny-piece, about an inch, more or less, in breadth, proportionate to the size of the limb, softened in nearly boiling water, and dried by gentle pressure between the folds of a towel, was then quickly made to enwrap the limb from the toes to the knee, in the usual manner of the common roller.

The limb is thus encased in gutta percha; and while the material is still soft and adhesive, it is firmly and equally kneaded by the fingers, so as to mould it closely to the parts, and cause the turns of the roller to adhere to each other. The limb is now firmly held below the knee, while the foot is gently twisted outwards, with the toes in the same direction, and upwards. The desired position is maintained until the material becomes cold, which it does in a few minutes, which time may be shortened by immersion in cold water; when the *light, hard, equal, strong* mould thus formed effectually prevents the return of the foot to its abnormal position.

In a few days the gutta percha is removed, a matter easily accomplished by a regular unrolling of the turns of the bandage, reapplication is effected, a little further restoration of deformed parts being obtained; and by thus proceeding at intervals of a few days, the foot and limb are, in the course of two or three weeks, restored to their normal relations.

I suspect it is a considerable recommendation of this method—by the material in form of a roller—that it is with the greatest facility removed, which I do not think would be effected without difficulty if the mould were otherwise formed. It would add greatly to the value of the practice could the material be easily softened, the parts adjusted, and removal avoided. This I have attempted; but the high temperature required to make it soft and adhesive rendered the effect abortive.

I have not experienced any bad effects from the practice; but I can readily conceive, if the mould be dimpled when soft, or otherwise applied unequally, that pain, ulceration, or abscess must follow, although protection by a thick, soft bandage, layers of carded cotton, or a stocking, will go far to prevent or remove them. So likewise, unless in some cases the urine be prevented, by a piece of oiled silk, from constantly soaking the bandage and skin, excoriation will ensue; and it has been said that confinement and accumulation of perspired matters will have a similar tendency. To which I can only reply that it has not happened in my cases, even when the mould has remained on for weeks, which it will very rarely require to do in club-foot.

I have repeatedly, without the least untoward occurrence, operated within a week after birth. The patients treated by the plan recommended were all infants (one excepted, who was three years of age); and it may be questioned whether the method is applicable to more advanced periods of life. From my experience by the analogous method, with Paris plaster, I have not a doubt the gutta percha will answer for more advanced patients in the same degree as the more common modes of treatment; that is, that it will be found as efficacious and manageable, if not more so; but it will be necessary to proportion the strength of the mould to the resistance to be overcome—a matter easy of accomplishment by several coatings of the gutta percha roller.

There is one drawback to the plan; but it is more in appearance than reality. The articulations in the foot and at the ankle are rendered immoveable, and assistance in throwing the foot upwards and outwards, by the weight of the body in

standing and walking, is lost. This objection does not apply in the cases of very young infants, who are unable to stand; and the paralyzing effect of perfect repose on the overacting muscles, and the gain by the contraction which is permitted to the opposite and debilitated ones, have a rapid effect in restoring the balance of action. At all events it is easy, when the difficulties of removing the deformity have been overcome (by far the most troublesome and painful period of the treatment), to prevent relapse by exchange of the gutta percha for such an apparatus as will allow the muscles to be called into action, the articulations to play, and the weight of the body, in standing and walking, to aid in the perfect restoration of position and muscular action.

It must not be overlooked that in club-foot (*varus*, at least) the disease and consequent deformity are not confined to the foot. The whole limb is generally affected, the leg and thigh are rolled inwards; and though the sole may be turned down, if means be not taken to counteract the involution of the other parts, the patient will nevertheless walk with the toes of each foot directed completely inwards, the one requiring to pass over the other at each step, as is often seen; or if existing in a lesser degree, will constitute the ungraceful state called *in toes*. This is obviated in the treatment with the usual steel apparatus, by fixing the leg-straps at a proper point on a metal band which passes round the pelvis. A similar result is obtained by the method I recommend, placing the feet in a pair of boots, with the toes directed outwards, as in the "first position;" the boots being retained in the proper direction by being sowed on a piece of sole leather, and worn constantly or occasionally, as may be thought requisite. In this way one set of muscles is elongated and debilitated, another abbreviated and strengthened, as by the gutta percha on the foot and leg, and balance of power is in a short time obtained.

By perseverance for several months, I have never failed, in young patients, to restore the healthy form and action of the parts.

Fractures. Any plan by which the patient can be invigorated by exercise, while the injury and irksomeness of long and perfect rest in bed are avoided, is surely an important gain. These purposes are most effectually served by the gutta percha.

In several cases of simple fracture of the bones of the leg, the *excitement* and *swelling* having subsided under attention to perfect repose, elevation of the member, and the use of the ordinary roller, lateral cushions, splints, &c., I have most advantageously practised the following method:

The foot being surrounded by a common roller, and the leg with a Scultetus bandage, adjustment of the fracture is maintained by extension, while at the same time (whether beginning above or below is unimportant) the limb is encircled by the turns of a properly-softened gutta percha roller (that is, of a strip of the material two or three inches broad), applied edge to edge, so as to avoid inequality in the mould, which might irritate when it becomes cold and hard. Over this a similarly prepared roller is passed from toe to knee, which, adhering to the one below, and to each of its own turns, forms in a few minutes (a great advantage over the starched bandage and leather splint) an equable, light, strong, hard case for the limb, completely preventing motion at the seat of fracture; and in fact acting, like the shell in some of the lower animals, as an *external* bone, within which are the soft parts, and in this manner, in fracture, the broken bone is protected, and effectually prevented from displacement.

If the patient were to be confined to bed, this method would be applicable to fracture at any part of the leg; but its principal recommendation is, that the patient by it is not necessitated to keep his bed. It will be evident, however, that the plan is not likely to be equally efficacious in all cases; as, for instance, in those near or in the upper third of the femur, where the upper fragment being short, and the lower long, consequently affording by weight a powerful lever, displacement will be hazarded, but may be prevented by extension of the mould to a portion of the thigh.

As to displacement by shortening, this may be prevented by close application of the mould below the broad head of the tibia, which will prevent its slipping upwards; and although it may be supposed that the mould will revolve, and thus alter the proper relation of the fragments, this does not happen, the unequal figure of the limb preventing it.

In a week after the reception of a fracture, the patient may thus be enabled, by his own efforts, to throw his limbs out and sit on the side of the bed; or the limb may be raised and allowed to fall on the bed without injury, and, in fact, without pain. He may be allowed to turn from side to side, to walk with crutches, the limb being slung from the shoulder; the comfort of which, opposed to the ordinary, long, irksome, inconvenient, and debilitating confinement to bed, need not be dwelt upon; and the advantages of which in promoting and perfecting osseous union will be generally conceded, and are peculiarly valuable where the transport of the patient to considerable distances is requisite—a circumstance recommending this method in military practice.

In fractures of the bones of the leg and forearm, and in that of the arm, the eligibility of the gutta percha is very evident; whether applicable to the femur is more questionable; though, if the limb were contained in a tightly-fitting, *light, strong, hard case*, oblique or transverse displacement would be prevented; and if the case extended to the calf or knee, and to the nates, perineum, ischium, and external aspect of the pelvis, the inequalities of the limb below, within the case, and the resistance to the latter by the pelvis above, would, from the pyramidal form of the contained parts, render displacement by shortening unlikely. Trial, however, must determine the point, and I shall take the first opportunity of testing it.

Since writing the above, I have employed the gutta percha in the case of a boy with fracture at the juncture of the superior and middle thirds of the femur. Extension being made, the material was applied, over a roller, from the toes to the upper part of the thigh, close up to the perineum, round the pelvis, and again upon the thigh and the pelvis until the nates of the injured side were completely covered. Immediately after, he could, without uneasiness, be turned from side to side, and carried in his mother's arms, and I doubt not could have readily walked with the aid of crutches. Indeed the thigh and the pelvis were immovably connected: they and the leg might be said to have been in a few minutes converted into a hollow bone, in which the nates, perineum, and tapering form of the limb above, with confinement of the foot in the mould below, entirely removed the fear of longitudinal, while the tightness of the case prevented lateral displacement. Farther trial is necessary before inferring a general rule; but certainly the application had a most promising appearance, and enabled the patient to enjoy a degree of ease, and amount of motion quite new to us in fracture of the femur of a few days' duration.

Several theoretical objections may be made to the practice: such as, that the material being applied warm, it will have contracted when cold, so as to cause injurious compression: that its frequent removal and reapplication will be troublesome and prejudicial, and yet without this the state of parts cannot be observed. None of these occurrences, common to this and the treatment by starched bandage, have presented themselves to me; and if the recommendations are attended to, I do not think they need be feared; while some of them can be prevented, and the others are greatly counterbalanced by many advantages.

Necrosis. I have the method in practice and prospect in several other conditions. Six years ago, a girl was under my care on account of acute necrosis of the tibia. Almost all but the epiphyses became loose, and had been removed by incision; and the limb was then kept straight and steady by splints. At the end of several months osseous matter was deposited throughout all the space from which the necrosed bone had been removed, excepting about an inch in length in the centre; where the small apices of the pyramidally-shaped portions were connected with soft tissue, as in ununited fracture, and, in consequence, the limb has remained useless ever since. Amputation was proposed by one party, removal of the soft tissue and repose, as in ununited fracture, by another. In the meantime, the method of breaking up intervening soft tissue, in non-union of fracture, being proposed by Professor Miller, I determined to give it a trial in the analogous circumstances of this case. The breaking up was very freely executed, and the limb then put up in gutta percha, as described. It has remained free from uneasiness for eight or ten days, and, at least, in such repose as to afford the most favourable local condition for the practice, while vigour is retained by the free exercise permitted.

Amputation. This girl has had a wooden sole and pin attached to the gutta percha case, the diseased limb being shorter than the sound one, and she now walks freely about the ward with the assistance of a stick. She is enabled to do this by the weight of the body being thrown on the broad part of the tibia within the case, while the hardness of the latter prevents the foot being pushed upwards by pressure from the sole; thus showing another important application of gutta percha, viz. for the formation of a box to receive the stump after amputation in the leg, thigh, forearm, or arm. This can be made in a few minutes, at a trifling expense; will be light, easy—from equality and diffusion of pressure—and sufficiently strong. It can be made of any degree of strength, and can be prolonged to the proper extent, either by a pyramidal coil of the same material, or by attaching a wooden cup and pin.

For long stumps of the thigh or leg, I have a strong conviction of the great efficacy of this method—the case of the girl demonstrates it; and I have a hope that, to the poor and labouring class, who principally require such assistance, it will be found an important acquisition.

Compound fracture. A few days ago I dissected off a flap, and removed a detached fragment three or four inches long, which lay in the cancellous structure at the point of contact of the two fragments, in a case of compound fracture of the tibia, which has been under treatment for six months, and is still ununited. I likewise pared the smooth rounded extremities of the fragments; and when the excitement has passed off, intend to put up the limb in gutta percha. By perfect repose, the improvement of the debilitated frame by exchange for exercise after the long confinement to bed, and the removal of the dead fragment which acted like a foreign body, I hope yet to avoid recourse to amputation.

Diseased articulation. I have likewise the material under trial for preventing motion in diseased articulations, a mode of treatment now universally commending itself in theory as in practice; and here, too, the article bids fair for supplanting the methods of accomplishing the purpose hitherto in use. When employed with this view, its application in the form of a roller is much superior to that of a splint, the latter permitting some degree of motion. Many other applications of this pliable material suggest themselves; but these trials and propositions will suffice at present for attracting the attention of practitioners to its various and important uses in surgery.

ART. 61.—*On the Treatment of the Irritable Stricture of the Urethra.*

By J. P. VINCENT, Esq.

(*Observations on some of the Parts of Surgical Practice, 1847; p. 178.*)

I am aware that strictures will form quite independent of violence done to the urethra. There are old and very indurated ones of long standing, and occurring in various and uncertain parts of the urethra, which are benefitted by the use of metallic bougies, and by the pressure they make upon the parts; but in the *irritable stricture* I am confident that it is not cured in the best way by distension and pressure. I find, if I can once get into the bladder the finest instrument of the catgut kind, I have never been baffled in setting the tube to rights; but this confidence rests upon the fact that the bougie should pass absolutely through the whole urethra, and clearly into the bladder. This accomplished, the patient passes a slender stream with less straining and more comfort than he did before. On the contrary, I have generally found that when I have passed an instrument only just into the stricture, and even forced it through as far as possible without injuring the membrane, but not into the bladder, that, so far from the patient passing his urine better after the operation, he has had much more difficulty, and sometimes altogether a stoppage. These facts prove that the effects that bougies have on the parts is not that strictures of the ordinary kind are cured by pressure, although pressure may for a time dilate the mere contraction, but that there is an influence arising out of the sympathies of the tube which presents itself as a cause, by which a striking and permanent relief is produced in the stricture by a small bougie gently gliding through the prostatic portion of the urethra and fairly entering the bladder, whilst, on the other hand, the mere art of distending a stricture really excites an irritation in the part that adds to the mischief. Even if no other than

a fine bougie be daily passed, the patient will continue to improve, although the size be not increased. It is, indeed, upon the principle of the associations of actions in certain parts of the urethra that these sorts of strictures are cured. Moreover, I have observed that when it has seemed proper to increase the size of the bougie, that on the first use of this larger one the patient has not felt so well as before, but again feels the improvement go on as long as the same size is continued. By these gentle means I have no doubt, from what I have seen, that this class of strictures is best, most safely, and most permanently cured; that irritation, which has called into action associated derangements, being thus removed.

But the influence goes beyond the first stricture I have now spoken of; for if this has existed some time, and advanced so far as to have formed a perfect contraction, there is then another formed in a part anterior to the other, as is well known to surgeons; and if a bougie larger than that which would be used for the posterior stricture be taken, the tube is found obstructed at about four inches down. Now as this is the sequence of the other stricture, and as both are formed in unvarying places in the urethra, and both relieved by passing the bougie to the utmost extremity of the tube, they both must arise from some peculiar state arising out of the endowment implanted in the part near the bladder, independent of contingent circumstances, and acting under settled associations; and therefore, I conceive, it is not correct pathology to say that strictures are the result of casual inflammation indifferently attacking some part of the urethra. This view is strengthened by the fact that the beneficial influence of the bougie is produced on the first stricture, whilst it, by the size, might be regarded as only acting on the posterior, being too small to be calculated in any way to distend the first stricture, while the posterior, on the other hand, will sometimes be benefitted by only acting on the anterior one.

In proof of the advantages of mild treatment in strictures, I shall produce this one case: A military gentleman, who had been stationed some years in the Mediterranean, got leave to come to England for relief, as he could get none abroad. He suffered all the misery attending bad strictures, squeezing out a small quantity of urine with torment, &c. He sought the aid of a surgeon, who adopted the practice of forcing a metallic instrument through the stricture, by which he lost deluges of blood, and found, besides, the treatment made no advance in relieving him. He then placed himself under my management. I employed a very fine caout, but had to make several attempts before I could pass it into the bladder. After I had once accomplished this, he felt considerable relief; and afterwards his improvement was rapid. He was quite restored in all the powers and functions of the tube in a comparatively short time. I am ready to believe that there are no strictures of that kind, which have their origin in mere irritation, that are not perfectly curable by this line of conduct.

ART. 62.—*Excision of the Head of the Femur in Caries of the Hip-Joint.*

By HENRY SMITH, Esq., M.R.C.S.E.

(*The Lancet*, April 1st and 15th, 1848; condensed.)

Amputation at the shoulder-joint has been performed many times for caries of the head of the bone, and for compound fractures in that locality, but there are few well-educated surgeons who would think of resorting to this proceeding now, when the operation of removing the head of the bone is so well understood, and its benefits are so universally acknowledged. Resection of the ends of bones entering into the formation of joints has almost entirely been confined to the elbow and shoulder; and it is rather a curious and an inexplicable fact that, knowing the benefits of these operations, especially that of removing the head of the humerus, British surgeons have not thought of putting in force an operation of a similar kind in another locality—namely, the hip.

The subject has never had paid to it, by most British surgeons, that due consideration to which it is entitled, and it is only very lately that the attention of the profession has been particularly drawn to it.

About thirty years ago, Mr. Anthony White, of the Westminster Hospital, met with a case of disease of the hip-joint, in which all the ordinary measures of cure were found to be unavailable; and in order to give his patient a chance of life,

he deemed it fit to resort to a proceeding of a novel character—namely, resection of the head of the thigh-bone. He put this in force, and with the most entire success, as will be seen by the following extract, which I take from Mr. Cooper's 'Surgical Dictionary':—"The patient was a boy whose femur had been dislocated from disease of the hip, the head of the bone lying on the dorsum of the ilium. There were several fistulous openings in the hip, through which the bone could be detected in a state of caries. He had suffered from the disease for three years, and was in an exhausted condition. Mr. White, reflecting that the original structure of the joint had been annihilated, that the boy would die if no attempt was made to get rid of the diseased head of the femur, and, even if he lived, the limb fixed in this manner across the other would be an encumbrance only, determined to operate. Being assisted by Mr. Travers, he cut down upon, and exposed the head and neck of the femur, and having sawn through the bone just below the trochanter minor, he raised the detached fragment with an elevator, and extracted it. At the end of a year he recovered, and so useful a new joint had formed, that, with the assistance of a high-heeled shoe, he could walk well, and execute the common movements of the limb. He lived five years afterwards, and died of phthisis."

The parts taken away after death were preserved, and are now in the Museum of the College of Surgeons, No. 391 in the Pathological department. The preparation affords a complete and an interesting proof of the benefit derivable from this operation. A false joint had formed, the end of the femur being securely though movably attached to the ilium by a strong capsule of ligamentous tissue.

Since the period of Mr. White's operation, with one exception, resection of the head of the thigh-bone appears to have fallen totally into oblivion amongst British surgeons. About three years ago, however, a case of disease of the hip was admitted into King's College Hospital, under Mr. Fergusson; it was impossible that any ordinary measures could be of avail, and the patient was gradually sinking. To give him a chance of life, Mr. Fergusson put in practice the operation of White with entire success. This case has already been brought prominently before the profession;* but I shall here mention its particulars.

A boy, æt. 14, had been suffering for several months from disease of the hip, and had been discharged as incurable from one of the largest hospitals in London. The malady had made such rapid inroads upon his constitution, that it was evident he would sink, unless some operative proceeding were resorted to. In addition, the local symptoms were such as indicated that an operation might be successfully undertaken. The head of the thigh-bone was dislocated on to the dorsum of the ilium, and could be felt through the soft parts lying in that situation. A large sinus was situated over the great trochanter, through which the finger could be passed, and carried around the articular extremity of the femur. Several sinuses existed contiguous to the larger one; but it could not be ascertained that any led to diseased bone, or communicated in any way with the pelvis. The head of the bone appeared to Mr. Fergusson to be acting as a foreign substance amongst the soft tissues of the hip, and thus causing great irritation. The operation was determined upon. The head, neck, and trochanters of the femur, measuring four inches and a quarter in length, were removed. Not a bad symptom ensued, and the result was most satisfactory. The boy was brought from the very gates of death; he regained robust health and strength, had a useful limb restored to him, and now remains a wonderful instance of the benefit which the art and skill of the surgeon, when rightly applied, can confer.

The common malady known amongst surgeons as hip-disease consists in an ulceration of the cartilages, and a carious condition of the bones entering into the formation of the joint. The majority of cases are found to exist in children and young persons of a naturally unhealthy and scrofulous habit; and in these its chief influence appears to be excited upon the bone. It is particularly the head of the thigh-bone which, from its spongy structure, is more prone than a more compact tissue to put on a low, scrofulous inflammation, and suffer consequent disorganization. If the disease goes on increasing in severity, the powerful and resisting ligaments of the joint become involved, and give way, and thus a dislo-

* See Medico-Chirurgical Transactions for 1845.

cation of the thigh-bone takes place. Profuse suppuration ensues, and matter escapes in large quantities into the surrounding tissues; communications are formed between the diseased parts and the integument; and thus the local malady is of a most formidable nature.

But the mischief unfortunately does not terminate here: the constitution sympathises most acutely with the local affection. The continual drain of matter, and the severe pain which is an accompaniment of this disease, necessarily produce, as their results, great emaciation and diminution of strength, want of sleep, sweating, and cough, and the patient is gradually brought into a most desperate condition. In many instances he is, after a comparatively short period of suffering, carried to the grave; or should this not be the case, he lies, perhaps for years, a helpless and pitiable object, harassed by pain, and worn down by slow and wasting hectic. It is fortunate that the foregoing is not always the true picture of a case of hip-disease; in many instances Nature, aided by the efforts of a judicious surgeon, will do much. The malady may not be of so serious a character as will resist the application of suitable remedies, and the constitution may be powerful enough, under certain favourable circumstances, to bear up against its attacks, and thus allow time and opportunity for those remedies to be successfully applied. But this favourable result cannot be expected to take place in the more severe cases, especially when unfavourable circumstances have existed, and when there has been neglect. The subjects of the disease will either die, or they will remain in a crippled and pitiable condition for the remainder of their lives.

Such being the condition of things, then, is it not reasonable to suppose, that by taking away the cause of these sufferings, even by a severe operation, the patient will be placed in a much more favourable state than he was before? No hope remains for him if the disease is allowed to go on unchecked: but some considerable hope can be held out by the surgeon, who will be bold enough to resort to a proceeding which is allowed to be justifiable in similar diseases in other parts of the body. But apart from this assertion, the operation *has* been performed, life *has* been saved, and the patients *have* been restored to comfort and health.

One of the chief rules in surgery is this: that whenever any foreign substance is lodged or produced in any part of the body, causing irritation and disease, the same should be removed by the art of the surgeon, if it can be got at. And how constantly does the surgeon act on this principle? He hesitates not, when other measures have failed, to remove, by a formidable and frequently fatal operation, a calculus from the bladder, which is destroying his patient's health and comfort. If the shoulder-joint be diseased, he deems it his duty to remove the head of the humerus, and even portions of the scapula; and some are bold enough even to open the abdomen for the purpose of taking away ovarian tumours—an operation considered by many to be even perfectly in accordance with the rules of art. The diseased bone must be looked upon as a foreign body, producing all the mischief; the indication is to remove it, and if this can be done successfully, it is evident that the proceeding must be regarded as one entirely warrantable by science and the principles of surgery.

But it requires the exercise of a sound judgment to determine upon the proper cases in which this severe operation should be attempted. It must be remembered, that it is not every incurable disease of the hip-joint for which this remedy will be suitable. I shall speak correctly, perhaps, if I say that it is not applicable to the majority of these cases; for it is only under particular circumstances that resection of the head of the femur should be attempted. The disease in the hip must be in its last stage; it is necessary that dislocation of the thigh-bone from its socket should have taken place, and there must be evidence of the disease being confined chiefly to the upper part of this bone, and of a non-implication to any great extent of the pelvic bones.

The symptoms of the last stage of hip-disease and of dislocation are sufficiently well known. At the same time I would have the surgeon not to be too hasty in making up his mind as to the existence of dislocation, for there are cases to be met with in which the signs are deceptive. The distorted aspect of the hip, and the shortening, may lead him to suppose that dislocation exists, especially if the disease has been of long standing. Notwithstanding these symptoms, however, the head of the bone may yet be in its socket, either unaffected by the disease con-

fined to the neck and trochanter, or in a state of partial ankylosis. This occasional difficulty of diagnosis will not stand in the way, however, as few surgeons would think of performing this operation, except in those cases in which it is evident to the eye and the finger that the head of the bone has slipped from its natural situation, and is in a carious condition. If, in such a case, the disease has existed for a considerable time, abscess and sinuses will have formed, and through the latter, by means of the finger or the probe, the head of the bone may be felt and the amount of disease detected. An abscess may exist in this region, and by evacuating it the same object may be gained; the head of the bone will, in some instances, be found lying in the midst of this abscess, on the ilium, and the finger may readily be carried over its surface. To what extent the pelvic side of the joint may be diseased will be a more difficult thing to ascertain, and there are, perhaps, no signs by which we can to a certainty learn this. If, however, much disease exist there, sinuses will be formed over the parts, and by means of them some correct information may be gained. Sometimes the acetabulum in these bad cases is completely perforated, and matter gets into the pelvic cavity; in this case a considerable impulse will be given to any collection of matter which may exist superficially on the patient's coughing, and the local and general symptoms will be much more severe. By looking at the anus and rectum, the surgeon may sometimes be assisted in his diagnosis; for it occasionally happens that when the ulceration extends through the acetabulum, and matter passes into the pelvis, it descends by fistulous openings to the sides of the anus, or more readily into the rectum. The objection to the operation—namely, the existence of disease in the pelvic side of the joint, cannot certainly be entirely overcome; but I believe that great misapprehensions exist with regard to this point. Some surgeons suppose that in every case of hip-disease there must of necessity be an implication of the pelvic bones; even the celebrated Pott laboured under the mistake, for he says,—“In the case of a carious hip-joint the pelvis is never unaffected; the acetabulum, ischii, and parts about, are always more or less in the same state, or at least in a distempered one, and so, indeed, most frequently, are the parts within the pelvis.”*

If psoas or iliac abscess exist, (and iliac abscess does sometimes result from disease of the hip.) an impulse will be given on coughing or crying, and there will be other symptoms which more particularly belong to this affection which the surgeon must well look into when he is thinking about the performance of the operation; for should any of these be met with, it will be out of the question.

If, then, there be dislocation of the thigh-bone, and the head of that bone be found to be extensively diseased, and there is no disease of importance in the pelvic bones, and no communication between the abscesses about the hip, nor any with the pelvis or abdomen; if, also, with these conditions, it be evident that the patient is slowly and gradually sinking under his malady, and the surgeon is convinced that there is no hope for him from natural and remedial means, but that he can hold out considerable hope by the adoption of a proceeding, severe indeed, but not so formidable as is imagined,—then will it be both justifiable and proper to have recourse to this operation; and I think it is the duty of the surgeon, in such a state of things, to give his patient a chance of life, and not to suffer him to die unaided by those resources which are expected to be in his possession.

Various methods have been proposed for performing this operation on the living body. Of all these methods, that which is put in practice by Mr. Fergusson appears to me to be the most applicable. He states,—“An incision through the skin and other tissues (six inches in length, carried over the trochanter) enabled me to expose the portion of the femur which I had resolved to remove; the head, neck, and trochanter major, were isolated and thoroughly turned out of the wound by twisting the limb over the opposite thigh, and a common saw enabled me to effect the separation of four inches and a quarter of the bone.”†

In this case it will be seen that not only the head of the bone, but the great trochanter also, was removed, in consequence of a supposition that the disease extended so far: thus the reason for so long an incision.

If the head of the bone alone is to be removed, a shorter incision, of from three

* Pott's Surgery, vol. iii, p. 412.

† Fergusson's Surgery; second edition, p. 382.

to four inches, will suffice. If the surgeon requires more room to work in, as, for instance, in the application of his saw, a second incision may be made to cross the first—a proceeding I have lately seen Mr. Fergusson put into practice. Care must be taken not to injure the great sciatic nerve, which will be found somewhat in the way. The bleeding will probably require little attention; no ligatures were required in those cases which have fallen under my own observation.

It is highly necessary that the surgeon should look to the condition of the cotyloid cavity; and, as far as I can ascertain, this important point has not been insisted upon except by Mr. Fergusson. If it be found not involved in the disease, the operation is finished: but if the edges of this cavity be carious the cutting pliers should be used, and the unhealthy portions taken away; and should any part of the socket itself be in the same condition it should be taken away by means of the gouge. No surgeon should attempt to perform this operation unless he has in readiness these two most useful instruments.

The after treatment is to be conducted on the ordinary principles of surgery, but particular attention should be paid to the position of the limb; it should be kept straight, and extended as much as possible. If the case does well, the patient gradually loses his night sweats and restlessness; the discharge of matter diminishes, and sinuses which may have existed slowly close up. Under these circumstances it may be fairly presumed that every source of irritation has been taken away.

I have collected together as many as sixteen cases of resection of the head of the femur, and of these one-half proved successful. I find that the operation was not performed in every case for caries of the joint; but it has been undertaken under other circumstances. Thus, in twelve cases mentioned by Roux, it was performed twice for a comminuted fracture of the joint by a ball; once in a case where, after an old fracture into the joint, necrosis supervened; eight times for disease of the hip-joint; and once for caries of the great trochanter and neck of the femur.

Independent of these twelve cases, this operation has been performed four times: once by Textor, on the 15th of January, 1845; all above the lesser trochanter was removed; a complete recovery took place. The three remaining operations have been performed by British surgeons; twice by the gentleman who revived it in this country—namely, Mr. Fergusson, and once by Mr. Simon, of St. Thomas's Hospital. Of the first case of Mr. Fergusson I have already mentioned the particulars; and I have only to add that, within a very few weeks, I have had an opportunity of seeing the patient upon whom the operation was performed three years since. He is a fat, hearty youth, and able, by means of a high-heeled boot and one crutch, to walk long distances. The motions of the false joint which has formed are free in almost every respect; the limb is strong and well developed, and there is a firm and healthy cicatrix in the position of the wound made in the operation.

The second operation was performed about the middle of November last, on a lad eight years of age. Disease of the hip had existed for some time, and had resisted ordinary measures of cure. Dislocation had taken place, sinuses existed, and a large abscess had formed over the ilium, through which, when evacuated of its contents, the diseased head of the bone was easily felt and its condition ascertained. There was great emaciation, hectic fever, cough, and sweating at night, and it was imminent that the child would fall a victim to his malady. After due deliberation and careful examination, Mr. Fergusson determined upon putting his plan into execution. He performed the operation by making a straight incision over the neck and head of the femur, and another crossing it; by this means the diseased portion of bone was got at and removed by the saw. The cotyloid cavity was then examined with great care, and the edges of it, being found carious, were removed by the cutting pliers.

At present it is impossible to give a correct opinion as to what will be the result of this case. As far as it has gone the patient has been much relieved: he has improved in health; has lost his cough and night sweats; has been enabled to sit up in the ward; and complains of no pain in his hip. The wound has nearly healed, but an abscess has formed in its neighbourhood, and thus one is

not able to tell whether all disease has been removed. It is the opinion, however, of Mr. Fergusson, that it will ultimately do well.

Mr. Simon, at St. Thomas's Hospital, performed the operation a few weeks ago. Here the disease was of two years' standing; dislocation of the thigh on to the upper margin of the acetabulum had taken place; sinuses and abscess existed, and there was every probability that the child would die. Mr. Simon, after much care, determined to remove the head of the bone; this he did, as well as some portion of the acetabulum which was involved; unfortunately the patient died four days after the operation. Thus, then, out of sixteen cases in which this operation has been performed, one-half have been successful; and this, in such an operation, and under such forlorn circumstances, must be considered as decidedly very satisfactory. The success in our own country has been very great, for out of the five cases which happened three of them proved successful.

Postscript.—Within the last few days this operation has again been twice performed: each of these cases have been under my close observation, and in both the operation was undertaken partly at my own suggestion. In the first, it was performed by Mr. French, of the St. James's Infirmary. The case was admirably adapted for it, and I can speak with more confidence on that point, as I had repeated opportunities of observing it,—the patient having been an inmate of King's College Hospital eighteen months ago, under Mr. Partridge, whilst I was in office there, and subsequently having been transferred into the St. James's Infirmary, where, through the kindness of Mr. French, I had the opportunity of seeing it. The patient was a girl of ten years: the disease had been standing some time; dislocation had taken place; the head of the bone could be felt on the dorsum of the ilium in a carious condition, through a large sinus; there were no evidences of disease in the pelvis, and the child was a complete cripple and in a delicate condition. The head and trochanter were taken away, and no disease was found to exist in the acetabulum.

In the second case the operation was performed on the 24th of March by Mr. Haynes Walton. The patient was a lad of sixteen, who had suffered for two years from disease of the hip: he had been under various treatment; was several months under the care of the late Mr. Liston. The symptoms were very severe; the appearances those of the last stage of the disease; the hip much distorted; the limb shortened. He suffered excruciating agony when any pressure was made over the upper end of the femur, and an opening existed below the trochanter through which a bloody purulent discharge flowed, and on passing a probe through this sinus bare bone was discovered. There was no indications of severe disease in the bones of the pelvis, and no signs of mischief in the iliac region: the boy's health was much pulled down, and he was a complete cripple, and likely to remain so all his life, as it was evident that disease existed in the upper part of the femur. An operation of an exploratory character being determined upon, Mr. Walton commenced by making a long incision over the upper part of the femur. By this means he discovered that the head of the bone was lying out of its proper site, in a carious condition, and that the trochanter was also much diseased. The tissues being well cleared away, the saw was applied below the trochanter and all above taken away: the cotyloid cavity was then looked to, and, as was anticipated, not much disease was found; the cartilage even was still found covering nearly all its extent, with the exception of a small portion at the bottom, which was gone, and the subjacent bone carious. This was removed by the gouge; a small part of the rim of the acetabulum was also bare, and was also removed; about four inches of the femur were taken away.

I have continually watched this patient since the operation, and am happy to bear witness to the beneficial effects which have already accrued. He has not suffered in any way from the proceeding; but a marked improvement has already taken place in his condition. The excruciating pain which had tormented him has ceased, he is regaining strength and spirits, and there is only a very moderate discharge from the wound, which has, to a great extent, closed up. The last report I heard of Mr. French's case was that it was doing well. (*Vide Report on Surgery in the present Volume.*)

SECT. IV.—RARE SURGICAL CASES.

ART. 63.—*Remarkable Case of general Anchylosis cured by the Application of Cold Water.* By Dr. L. FLEURY.

(Condensed from the *Archives Générales*, July 1848; p. 335.)

Madame André, æt. 36 years, of a highly nervous temperament, subject to leucorrhœa and occasional erratic rheumatic pains, consulted a physician for the leucorrhœa in 1842, and during five months subsequently employed astringent injections several times daily. In April, 1843, immediately after the use of an injection, she was attacked with a sense of heat and pressure in the head, with nervous symptoms, which returned daily, unless the attention was forcibly diverted. In the beginning of May her gait became unsteady, and she was always in dread of falling forwards, which became so exaggerated, that she could not walk across her room without assistance, and this dread was remarkably increased by the slightest moral emotion. At the end of the month, violent pains occurred in the eyes: opening the eyelids gave great pain; and there was a glutinous secretion from the conjunctiva, the sight being somewhat weakened. In July the eyes got well, with the exception of a slight dimness of sight, but this affection was replaced by violent pains in the temporo-maxillary articulation, which almost prevented mastication. The pain subsided in a few days, but the loss of motion of the jaw remained. In August, very intense, sudden pains, of short duration, were felt in different parts of the body, sometimes in the muscles, sometimes in the articulations, but they were unaccompanied with either redness or swelling. One morning in December, on awaking, violent pain was felt in the heels: in putting the feet to the ground, the sensation of a million pins penetrating the tissues was experienced; and three or four days after this the tibio-tarsal articulations became very painful. In January, 1844, Madame André, who had hitherto taken no medical advice, applied to an empiric, but after five months' treatment, had experienced no relief. By the month of October she was much worse, the tibio-tarsal articulations were swollen and painful; the knees were affected; they were painful, swelled, and irregularly deformed; walking was quite impracticable. Homœopathy was now resorted to, and proved totally useless. In January, 1845, violent pains occurred in the shoulders, elbows, and wrists; their movements were extremely painful, and they became gradually worse, and more limited. Towards the month of August the knees were almost completely deprived of motion, the legs being slightly flexed. In October the vertebral column was attacked, and the patient was obliged to remain constantly in bed. From January to March, 1846, the motions of the vertebral column and the coxo-femoral articulations became more and more painful and limited. In October of this year, Dr. Fleury was consulted.

Present condition.—The patient has not quitted her bed for a year, being incapable of any kind of motion; almost constant dorsal decubitus, and there is consequently a deep eschar over the sacrum; the attendance of two persons is constantly required, and she makes the most piercing cries every time she is moved. The emaciation is extreme, which the patient attributes to the contraction of the jaws, which have prevented her swallowing anything but liquids. But little appetite; habitual and obstinate constipation; skin dry and rough, always arid, and of a dirty grayish colour; face altered; the general habit analogous to that of individuals affected with saturnine cachexia; jaws contracted, so that the lower projects beyond the upper teeth; she can effect only the slightest motion of the inferior maxilla with great pain; the power of raising the shoulders completely abolished; the forearm can be slightly flexed, but extension is incomplete, and pronation and supination entirely null; motions of the wrists abolished; the fingers, in a state of the strongest possible flexion, are fifteen centimetres distant from the palm of the hand; the thighs slightly flexed on the pelvis; the psoas muscles can be felt through the abdominal walls contracted and rigid: motion in the coxo-femoral articulation abolished; the legs strongly flexed, without any power of moving them; the knees so powerfully contracted against each other, that their

internal surface is denuded of skin; all motion in the feet lost; the trunk curved, the vertebral column forming an arc of a circle, with a posterior convexity; and the patient can neither straighten nor bend it. In consequence of the emaciation, the articulations appear very large, but no alteration of size can be made out.

In this deplorable and singular case, my first inquiry was—what could be the cause of the general ankylosis, of which condition there are only two or three cases recorded by Mr. S. Cooper and M. Velpeau; and I then asked what are our therapeutical resources in an affection of so long standing, and so obscure a nature. On the 20th of October Dr. Ricord was called in consultation.

M. Ricord considered that motion was almost entirely abolished in all the articulations, and that it was to be attributed principally, if not exclusively, to muscular contraction of a rheumatic and neuralgic character; advising baths, cataplasms, emollient frictions, and narcotics. The patient rejected these measures, having been so frequently disappointed by them, and expressed a desire that the cold-water cure should be tried, which I consented to.

The treatment was commenced on the 15th of November, and continued for eleven months. I placed an oil-cloth under her, and employed lotions of cold water, applying them rapidly with a large sponge; this was repeated three times a day, five or six minutes each time. The reaction was promoted by two or three woollen coverlets, in which she was wrapped for an hour or two. The first applications were very painful, the cold producing a disagreeable, painful sensation; and reaction was with difficulty established. On the 15th of December, the lotions were borne well, reaction was quick, the skin less dry and rugose, the appetite better, the patient felt stronger. January 15th, 1847. General condition much ameliorated; a better tint; very rarely any spontaneous pains in the joints; no longer the acute suffering on motion. I substituted wrapping in a cloth, wetted and wrung out, covered with two woollen coverlets, the patient remaining enveloped for two or three hours, and when the sweat became established, the free use of the cold-water lotion. February 15. The teeth were no longer closed and projecting; slight motion in the jaw; fingers less rigid; knees may be separated a little; she does not slide down in her bed so much, and sometimes lies on her side: with the assistance of two people she can get out of bed and support herself on two chairs, remaining upright two or three minutes; the trunk is strongly flexed on the pelvis, the thighs on the pelvis, and the legs on the thighs. Wet cloths and lotion were applied in the morning; she was placed upright in a large tub to receive a shower-bath in the day; lotions in the evening. March 1. The patient began to eat solid aliment; the fingers were moved more easily; the knees could be separated further; being placed in an arm-chair, she could remain three or four hours without great pain or fatigue. On the 15th, she got out of bed without assistance; she could soon move about the room, supporting herself on the furniture, always dragging her feet on the floor, in consequence of the immobility of the coxo-femoral articulation; wet cloths in the morning, followed by the shower douche; in the course of the day, and at night, the shower douche; exercise and spontaneous motion as much as possible. On the 25th she could move round the room, supported by two persons; during two or three minutes she remained standing without assistance under the shower douche. In the morning a hot-air bath, followed by a shower douche; in the daytime and evening the shower douche. March 31st. She could walk some steps with the assistance of a stick; the trunk a little straighter; some motion of flexion in the elbows, wrists, and knees. The same treatment.

April 15. The improvement has not progressed so rapidly. I advised her to go to Bellevue.* The treatment was recommenced on the 20th. In the morning the dry-air bath, followed by the shower douche, in her own chamber; at four in the afternoon, she was placed in a chair, and carried to the establishment; she received a general shower douche for five minutes, and a mild douche (mobile) upon the different articulations. May 20th, the patient walked easily, supported on the arms of a domestic, a third of the distance between her residence and the establishment, about 500 steps; the separation of the knees was almost normal; the trunk was manifestly straightened; the bad colour of the skin had entirely dis-

* The site of an hydropathic establishment.

appeared, the tint being clear and animated; appetite good; the body obviously fatter; constipation had ceased. June 20th. The morning, as well as the evening douche, was taken at the establishment. The douches were preceded by forced motion, to which I submitted the scapulo-humoral, humero-cubital, radio-carpal, coxo-femoral, femoro-tibial, and tibio-tarsal articulations. July 20th. The patient had little energy and courage to bear the forced motion, which occasioned acute pain, but was soon relieved by the application of sedative compresses. The sweating process in the morning was suppressed; three douches daily. August 20th. The motions of the limbs are now sufficiently restored for the habitual occupations of life, although the fingers are still bent upon the palm, and the motions of pronation and supination are still constrained; and the feet cannot be sufficiently raised above the ground. On the 20th of September she walked without any assistance whatever. By the 20th of October, motion was not perfectly re-established. But Madame André, who has very little energy, and who decried excessively the pain produced by forced movements of the limbs, would not submit to further trials. She remarked—"I am perfectly satisfied with my condition; the motions which I can perform satisfy all the exigencies of my life, and I do not require to purchase greater extent of motion at the price of new sufferings." The treatment was accordingly suspended. On the 1st of June, 1848, Madame André's condition was unchanged.

[The pathologist will doubtless question the propriety of designating this disease "Anchylosis." On the cold-water treatment, vide *Report of Surgery* in the present volume.]

ART. 64.—Remarkable Case of Fracture of Three Vertebrae, of the Sternum, and of Three Ribs. By M. BRABANT.

(Condensed from *The Annales et Bulletin de la Société de Médecine de Gand*, and *Gazette Médicale*, April 1848, p. 276.)

A mason, æt. 45, fell from the height of a first floor, upon stones. No one saw him fall, but he was found lying on his face a few minutes afterwards. He complained only of violent pains in the back. The following day M. Verbuick found a deep ecchymosis between the shoulders, with pain, augmented by the slightest motion or pressure; complete paralysis of the inferior extremities, bladder, and rectum, and total loss of sensibility from the middle of the thorax; respiration slow, anxious, difficult, and entirely diaphragmatic; the thoracic parietes immobile, apparently paralysed. It was concluded that he had pressure or dilaceration of the spinal cord from a blow on the dorsal vertebrae, and probably fracture. A fracture was also detected of the superior third of the sternum, the inferior fragment riding on the superior. There was no sign of contusion on any part of the chest. It must accordingly be inferred that the sternum, violently bent at the moment of the shock, was broken like a tense cord by the two ends.

Death occurred on the fifth day. The autopsy developed the sternum broken at the articulation of the square portion with the second portion. This solution of continuity may therefore be regarded rather as a separation than as a fracture, since the articular surfaces were not even yet ossified.

There was fracture of the bodies of the second, third, and fourth dorsal vertebrae, the fractures proceeding in different directions, but no fragment being displaced. On compressing the fractured portions, a putrid sanies escaped from between the fragments, which were enveloped in a thick detritus of the surrounding soft parts. The three right ribs corresponding to the three broken vertebrae were fractured up their posterior angles, evidently produced by the direct blow upon the vertebral column.

ART. 65 — *Case of undescribed Congenital Malformation of the Shoulder-joint, simulating Congenital Dislocation.* Communicated by Dr. O. B. BELLINGHAM.

(*Dublin Medical Press*, July 5, 1848.)

[The patient was a labouring man, 58 years of age, admitted into the hospital when suffering from bronchitis.]

In examining his chest, I noticed that his right shoulder and arm presented a very different appearance from the left; the muscles, particularly the deltoid, being atrophied, and the bulk of the arm being one-half that of the opposite limb, in which the muscles were largely developed. The patient could not raise the arm to a right angle with the body, but all the underhand motions were well performed; and he says he could carry heavy bodies in the hand. On being questioned, he said this had been the condition of the arm as long as he could remember: he had never received an injury in the part until two or three years since, when the clavicle on that side was fractured.

On examination, the shoulder-joint presented somewhat the appearance of a congenital dislocation; the acromion process was very prominent, the deltoid muscle scarcely developed, and the arm about half the size of the opposite limb; in every motion of the joint the scapula moved with the humerus, as if ankylosis had taken place; the arm cannot be brought to a right angle with the body; when raised nearly to this point, there is a sudden check to its further elevation. The head of the humerus does not form any prominence in the axilla, nor is there a vacant space between the acromion process and the head of the humerus; and the elbow does not project from the side.

On a post-mortem examination, the supra-spinatus, the infra-spinatus, and the subscapularis muscles were found to be atrophied and converted into fatty matter, similar to what is seen in cases of very old unreduced dislocation, where the muscles had not for many years been called into action. Scarcely any traces of the deltoid muscle existed; the biceps were wasted, as were likewise the other muscles of the arm, but they were not altered in texture. The capsular ligament of the shoulder-joint was very thick, consisting of several layers, which were separated from one another by cellular tissue. At the under surface of this ligament, and apparently forming a part of it, a round, very strong ligament passed from the scapula to the humerus, which became extremely tense when the arm was raised from the side, and rendered it impracticable to bring the arm above a right angle with the body, even when the muscles connected with the joint were removed. The head of the humerus was in contact with the glenoid cavity, and remained in contact with it after the muscles were cut away, and after the capsular ligament had been opened above. The scapula, clavicle, and humerus were small, resembling those of a delicate female rather than of a labouring man. There was no appearance of the clavicle upon that side having ever been fractured.

The condition of the shoulder-joint now described, which there is every reason to believe was congenital, must constitute a very rare form of malformation, as the most recent work upon injuries and diseases in the vicinity of joints, by Mr. Smith, contains no case resembling it.

The original malformation here was undoubtedly in the capsular ligament of the shoulder-joint, the inferior portion of which was condensed, shortened, and converted into a kind of round ligament, which so limited the motions of the arm, that it could not be raised above a right angle with the body;—the muscles employed in raising the arm were never therefore called into action, and their tissue had degenerated; in some, as the supra-spinatus, the infra-spinatus, and the subscapularis, the muscular tissue was converted into a matter resembling fat; while the fibres of the deltoid seemed never to have been developed, so completely was its muscular tissue absent.

The scapula, clavicle, and humerus upon this side, which resembled rather those of a delicate female than of a robust man, were exhibited to the members of the society, and are now in the Museum of the Royal College of Surgeons.

ART. 66.—*A Case of Ischio-rectal Abscess, caused by an Injury of the Nates, producing Symptoms resembling those of Dislocation into the Foramen Ovale, and those of Morbus Coxæ; with Remarks.* By R. P. HOWARD, M. D.

(Condensed from the *British American Journal*, Aug. 1848.)

James S., æt. 7 years and nine months, of scrofulous diathesis and slender frame, was in perfect health until Sunday, the 23d April, on which day, when running, he fell on a large stone near the steps of his dwelling, and hurt the left buttock. Soon afterwards he entered the house, appeared "sick" and heavy, complained of "pain in the belly," and lay upon the sofa. He rested well that night, but continued sickly and dull the next day, with the pain in the belly as before. His mother gave him salts and senna, which somewhat relieved him; but he remained heavy, not inclined to play, but disposed to sit and lie. On the 27th instant it was observed, for the first time, that he walked lame, and that one leg seemed to be longer than the other. Having stripped and examined him, his father concluded the "hip to be out of joint." The child now told that he fell on a stone, and injured himself. During the night he complained much of his belly. The following day a practitioner saw the boy, and believing it to be a dislocation, attempted its reduction, but desisted for want of aid and appliances. That night he suffered great pain near the coccyx.

I saw him first on Saturday, the 29th instant, when I noted the following observations: he stands with the left knee advanced in front of the right, the limb abducted, with the foot rather everted, but not much so. No leaning forward and to the left, nor are the psoas and iliacus stretched. Walks without dragging the leg, bends the knee freely, and can support the body on it without pain, though he appears to lean chiefly on the right limb. The spine is not curved, nor is either shoulder obviously depressed. The left limb may be abducted without pain or force, and then seems to be longer than its fellow. No pain on striking the heel or trochanter major: none in front of or behind the capsule of the hip-joint: none on rotating the head of the femur in the acetabulum. Great tenderness on pressing lightly on the left buttock, and here there has been severe pain at intervals during yesterday and last night. The left nates is broader than the right, but not flatter, as if wasted, and the sulcus between it and the thigh not obliterated. The trochanter of this side seems to be lower than the opposite, and the internal condyle of the right knee lies in the fossa, above the internal condyle of the left, thus giving the semblance of lengthening by an inch and a half, though in reality the patellæ of both sides are equidistant from the anterior-superior spinous processes of the pelvis. The head of the femur cannot be felt in the perineum. Decubitus on the affected hip, with the knee flexed; in this position the hamstrings are tense; complete extension is difficult and painful, and the thigh cannot be as much flexed on the pelvis as the right one. Never had pain or stiffness in the knee or hip-joint, nor occasional darting pains down the thigh, aggravated at night, nor did he previously, at any time, feel fatigued after slight exertion.

Skin hot; pulse 114, quick and firm; tongue furred white; appetite trifling since the accident; bowels costive. Ordered a black draught at once, and 2 grs. Dover, with 5 grs. hyd. cum creta three times a day; low diet; fomentation to the hips.

30th inst. As before; much heat about the hip; great tenderness of the left buttock, where the stone struck. On passing the finger up the rectum, I felt a swelling near the body of the left ischium, which was so sensitive that the child roared when I touched it; no motion or displacement effected in this swelling by rotating the limb; no fracture of coccyx, nor of ischium.

Diagnosis.—Abscess forming in the ischio-rectal fossa. Ordered leeches, fomentations, and poultices to the back of the joint and buttock, and to have a tea-spoonful, every two hours, of the following mixture:

R Ant. pot. tart. gr. ij;
Aquæ, ʒvij.

1st May. As I was indebted to the kindness of Dr. Crawford for the case, I informed him of its progress, and of my diagnosis. He visited the boy with me, and, after a close examination, coincided with the above view.

2d May. Rest much disturbed by the pain, which is increased even by the application of the poultices. Skin warm, but moist; pulse 114, not firm, as before; bowels costive, with much tenesmus; has a slight cough; the left buttock over the tuber ischii is tense, swollen, hot, and conveys to the finger the characteristic sensation of a forming deep-seated abscess. The margin of the anus is tumid, and exquisitely sensitive. Ordered a dose of castor oil, and a poultice of hops.

3d May. The irritability of the rectum persists. The left side of the anus, and a margin of about one inch of the perineum, on the same side, are of a crimson colour—œdematous—and present the appearance as if the abscess would point near the sphincter. The cough increased; pulse 112, small. The powders and mixture to be stopped, and the following substituted:

R. Vini ipecac., ℥ij;
Spt. ætheris nitrosi, ℥iij;
Tinct. hyos., ℥i;
Aquæ, ℥v ℥ij;

℥ss to be taken every two hours.

A suppository of gr. $\frac{1}{2}$ opium at bedtime, and a warm bath.

4th May. Rested better; had a rigor last night; appeared easier this morning; skin hot and moist; pulse 120, small; irritability of the rectum continues; cough looser. Ordered the evacuations to be examined for matter.

5th May. The abscess opened last night while at stool, and much healthy pus escaped with the fæces, giving immediate relief. The skin now is cool and moist; pulse 87; bowels yet irritable; the swelling about the anus subsiding; the pain gone; no stiffness of the joint; stands erect, with both feet together and walks without limp or pain. The orifice by which the pus escaped situated about one inch within the rectum.

13th May. The boy is well, and no signs remain about the nates of the recent injury. He walks naturally. The orifice in the rectum not to be felt.

I saw the boy on the 26th of this month. He is perfectly well, and used the left limb as well as the right.

REMARKS.

This case is interesting in several particulars; but chiefly as it exhibits the possibility of an *injury near the hip-joint terminating in an abscess*, producing symptoms, at first sight, resembling much those of *dislocation into the foramen ovale*, and not a little those of *morbus coxæ*, in its early stages; yet *establishing a clear diagnosis* between these several affections. For the sake of perspicuity, I will arrange the points of dissimilarity and resemblance, which are the most striking, in opposing columns.

A. POINTS OF DISSIMILARITY BETWEEN:

Ischio-rectal abscess.

1. Produced by a violent fall on the nates.

2. Lameness not observed till four days after the accident.

3. Abduction of the limb easy and painless.

4. Toes and heel rested on the floor.

5. Apparent lengthening of $1\frac{1}{2}$ inches.

6. Apparent depression of trochanter major.

7. In the erect posture, no bending forwards, nor were the psoas and iliacus stretched so as to form a tense ridge, sensible to sight and touch.

Dislocation into the foramen ovale.

1. Produced by a weight falling on the pelvis, while the trunk is bent forward, and the thighs are separated from each other.

2. Lameness observed immediately after the accident.

3. Abduction of the limb difficult and painful.

4. Toes rest on the floor, heel usually off the floor.

5. Real lengthening from $1\frac{1}{2}$ to 2 inches.

6. Real depression of trochanter major.

7. In the erect posture, trunk bent forwards, and the stretched psoas and iliacus form a tense ridge on the side of the thigh, sensible to sight and touch.

8. Head of the femur not felt in the perineum, though a boy of "slender frame," and no swelling.

8. Head of the femur felt in the perineum, only in thin patients, and in the absence of swelling.

The progress, mode of treatment, and the result in this case were so manifestly opposite to what they would be in the dislocation, that it is needless to contrast them.

B. POINTS OF RESEMBLANCE.

Ischio-rectal abscess.

1. The limb advanced and abducted.
2. Toes slightly everted.
3. Complete extension and flexion difficult and painful.
4. Hamstrings tense, and knee somewhat flexed.

Dislocation into the foramen ovale.

1. The limb advanced and abducted.
2. Toes everted in some cases.
3. Complete extension and flexion difficult and painful.
4. Hamstrings tense, and knee somewhat flexed.

A. POINTS OF DISSIMILARITY BETWEEN:—

Ischio-rectal abscess.

1. Stiffness of the limb, &c., sense of fatigue and weakness after slight exertion, were not complained of for some time previous to the lameness.
2. No pain at any time in the knee, nor down the thigh.
3. No pain in the hip itself, but seated near the tuber ischii.
4. Does not drag the limb when walking, but bends the knee freely.
5. Rests on the sole of the foot, and can bear the weight of the body on the affected limb.
6. Decubitus on the affected side.
7. The affected limb not different in appearance from its fellow.
8. The affected nates not wasted, nor the sulcus between it and the thigh at all effaced.
9. No real lengthening.
10. No pain in the hip or knee produced by striking the heel or trochanter major, nor by rotation of the limb.
11. Neither pain in front of, nor behind the ileo-femoral capsule.
12. A very brief period elapsed, accompanied with acute pain, but little constitutional deterioration before suppuration and subsequent relief resulted.
13. The cure after suppuration rapid and perfect.

Morbus coxæ.

1. Stiffness of the limb, and a sense of fatigue and weakness after slight exertion, complained of for some time previous to the lameness.
2. Pain in the knee, and occasional darting pains down the thigh; generally worse at night.
3. Pain in the affected hip occasionally.
4. Drags the limb when walking, and carries the limb straight, as if there were no joint in the knee.
5. Rests on the toes and ball of the foot, and cannot bear the weight of the body on the affected limb.
6. Decubitus on the back or unaffected side.
7. The affected limb is found decidedly thinner, softer, and more shrunk than the other.
8. The nates of the affected side wasted, and the sulcus between it and the thigh more or less effaced.
9. Real lengthening.
10. Pain in the hip or knee produced by striking the heel or trochanter major, and by rotating the limb.
11. Pain in front of and behind the ileo-femoral capsule.
12. A protracted period elapses, accompanied with great increase of suffering and constitutional deterioration, before suppuration and subsequent relief result.
13. The cure after suppuration, when it does occur, is tedious, and at best imperfect.

B. POINTS OF RESEMBLANCE.

Ischio-rectal abscess.

1. Occurred in a youth of strumous habit, connected with external injury as its exciting cause.

2. Stands with the affected limb somewhat advanced, and leans but lightly on it; the foot is slightly everted.

3. Apparent lengthening of the affected limb.

4. Knee of affected limb sound.

5. Nates of left hip somewhat broader than its fellow.

6. The left limb cannot be as much flexed on the pelvis as the other.

Morbus coxæ.

1. Occurs in youths of strumous habit; it may (or may not) be connected with external injury as its exciting cause.

2. Stands with the affected limb somewhat advanced, and leans but lightly on it; foot is generally everted.

3. Apparent lengthening of the affected limb in the early stage.

4. Knee of affected limb generally sound.

5. Nates of affected hip broader than its fellow.

6. The diseased limb cannot be as much flexed on the pelvis as the other.

The abduction of the left limb, and the slight eversion of the foot, seem fully accounted for by the inflicted injury exciting the *gluteus maximus*, the *gemelli*, the *pyriformis*, and *obturator-externus*, to spastic action. Besides, this position would most relieve the pain resulting from inflammation, and its effects—effusion of serum, lymph, and pus. The apparent lengthening is explained by the circumstance that the patient rested chiefly on the sound limb, and advanced the other (which was also abducted) so as to steady the body; thus the pelvis necessarily followed the movement of the limb, and its transverse axis, which normally forms a right angle with the spine, now formed an oblique angle, and the limb would appear lengthened according to the obliquity of the angle. The tenseness of the hamstrings, and consequent flexion of the legs, were doubtless owing to the irritation seated at the origin of the *biceps*, *semi-membranosus* and *semi-tendinosus* muscles having been propagated to them, and exciting a spastic state of these; hence the difficulty and pain caused by complete extension and flexion of the limb. The breadth of the left buttock and its fulness were owing to the inflammation which extended towards the mesian line.

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—MIDWIFERY AND DISEASES OF WOMEN.

ART. 67.—*On certain Displacements of the Unimpregnated Uterus.* By JOSEPH BELL, Member of the Faculty of Physicians and Surgeons, Glasgow.

(*Monthly Journal*, Sept., 1848.)

[THE displacements considered by the author in this paper are “retroversion,” “anteversion,” “retroflexion,” and “anteflexion.” Of the symptoms, causes, and diagnosis, as laid down by him, we do not think it necessary to give any account, inasmuch as his remarks do not in any respect differ from those already given by Drs. Simpson, Protheroe Smith, and others, whose communications on the same subject have appeared in our former Volumes. Of the treatment the author speaks as follows:]

The treatment of these displacements may be divided into two parts: 1st, the medical; 2d, the mechanical.

I. *Medical treatment.* It must appear self-evident, that when either enlargement or inflammation of the uterus exists, these conditions must be removed before we can expect to cure the patient.

It may be said that the enlargement and inflammation are the results of the malposition and not the cause, and that, consequently, it would be more rational to replace the uterus, and afterwards treat the effects. In answer to this I would submit the following observations:—1st. The relation assumed does not always exist; indeed I think it very rarely happens. 2d. Though you can replace the uterus, it will soon relapse into its abnormal position, unless the enlarged condition be removed. 3d. The uterus frequently cannot be restored to its proper place until it has been reduced in size. 4th. By removing congestion and hypertrophy, the organ will frequently, either spontaneously resume its natural site, or pregnancy occurs, and, subsequent to parturition, no relapse takes place. 5th. When you have reduced the hypertrophied condition, if the uterus does not, unassisted, resume its natural site, manual interference will then be more successful. Hence, in a practical point of view, it is of very little importance, whether congestion and inflammation have preceded or followed the displacement.

[Judging from his own experience, the author states that when judicious means are adopted in conformity with the principles above enunciated, few cases will require mechanical assistance. The following is an outline of the treatment which he has found most efficacious.]

1. Confinement to the recumbent position. Exercise not only causes an aggravation of the patient's sufferings, but protracts recovery.

2. Regular action of the bowels is of paramount importance. A loaded colon, by its pressure, increases the extent of the misplacement, and the passage of hardened feces causes considerable irritation and congestion, both of the uterus and rectum. The laxative found most useful is either olive oil or an electuary of sulphur, cream of tartar, and molasses. Enemata generally prove injurious.

3. Local depletion is of great use, especially when there is much tenderness of the uterus, or severe pain about the loins. The application of a few leeches to the vulva or os uteri, once or twice a week, will be most beneficial.

4. *Mercury*. When the uterus is much enlarged and indurated, my chief reliance has been upon mercurials. At one time I generally prescribed hyd. c. creta. I now prefer the iodide of mercury in half-grain doses every eight hours. In my hands this has been most beneficial in reducing the size of the uterus. After mercurial action has been established, I find benefit from the iodide of potassium in a vegetable bitter infusion.

By this method of treatment the enlargement and inflammatory action of the uterus rapidly subsides, and the organ resumes, in many cases spontaneously, its natural position. . . . Improvement of the general health is of the utmost importance in the treatment of displacements of the uterus. Profuse menstruation must be checked, the action of the stomach, liver, &c., promoted. If the vagina be relaxed, the alum hip-bath will be useful.

II. *Mechanical treatment*. This may be divided into manual and instrumental. Several authors recommend the uterus to be replaced by the hand introduced into the vagina and rectum. With regard to the use of instruments, I can say little from personal experience. Various kinds of pessaries have been proposed, none more ingenious than that by Professor Simpson.

These, and especially the latter, may be serviceable in retroversion; but I doubt their efficacy in anteversion, and in flexions of the womb. I should be afraid that the presence of these instruments would cause inflammatory action. It is but justice, however, to state that Desormeaux and others consider that the irritation caused by common pessaries tends to cure enlargement of the uterus, by increasing the action of the absorbents. If this be true, Simpson's instrument (see 'Abstract,' Vol. VII, p. 261,) may prove useful in two ways, viz.: by removing hypertrophy, and maintaining the uterus in its proper place. . . . The sponge pessary I have often introduced after the uterus has regained its normal size. I have never found its use to be required beyond a few weeks.

[The author, in conclusion, alludes to an article on the same subject, which we have reproduced in a former volume, and illustrates his mode of treatment by several cases.]

ART. 68.—*On the Diagnosis and Treatment of Retroflexion of the Womb*. By T. SAFFORD LEE, M.R.C.S.

(*Medical Gazette*, June 29, 1848.)

[The accompanying abstract forms part of a long communication which embraces all the points connected with the pathological history of this displacement. We, however, abstain from reproducing the symptomatology of this affection, as well as some other portions of the essay, for the reason given in the preceding article. The affections with which retroflexion may be confounded are thus spoken of:]

I. *Diagnosis*.—*Retroflexion may be confounded with retroversion of the womb*. In retroflexion, the os uteri looks downwards and a little forwards towards the outlet of the vagina; the cervix uteri can be traced perpendicularly upwards to a certain distance, and then it will be found to pass abruptly backwards, terminating in a painful tumour between the vagina and rectum. This position of the uterus can be fully verified by the introduction of the sound, which passes easily backwards into the tumour posteriorly, where it may be felt through the vagina.

In retroversion of the womb, there are several of the same characters observable as in retroflexion. The uterus is felt passing backwards into the recto-vaginal space, while the os uteri is drawn considerably upwards behind the pubes, producing retention of urine. Therefore, the position of the os uteri, and the effects produced by it, with the fact that retroversion occurs generally in pregnancy, sufficiently distinguish the latter from the former disease.

2. *It may be mistaken for an ovarian tumour, and is very often accompanied by one*. The ovary of one or both sides is frequently found to become enlarged, either by distension from engorgement, chronic inflammation, or cystic development; either of these states may produce a tumour between the rectum and vagina,

and some exactly assimilate retroflexion of the womb—the enlarged ovary being mistaken for the fundus uteri. I have seen several mistakes arise from this cause. The indication under such circumstances is to endeavour to distinguish between the two, in order that proper treatment may be applied. Where the ovary is diseased, it can be ascertained by the introduction of the uterine sound into the cavity of the uterus, which may be placed in its natural position; and by moving the uterus cautiously, it will be found to have no connexion with the tumour which had been previously felt.

A singular case of this kind came under my notice. I found, on examination, a body which at first I mistook for the anterior lip of the uterus, very much elongated, but which proved to be the whole uterus pushed downwards and forwards into the anterior portion of the vagina, and nearly protruding from the vulva. Immediately behind this body a hard tumour was felt, and it was supposed that retroflexion of the fundus existed. I was unable to find the os uteri between this body and the tumour posteriorly. It then struck me, on examining more carefully the body in the vagina, that it had the feeling of the uterus. I could find, however, no os uteri; but after drawing the finger over its lower part, I observed a slight depression, to which I applied the uterine sound, which ultimately passed into the cavity of the womb. This at once threw considerable light upon a very uncommon displacement. After we had thus found out the character of the tumour in the vagina, the posterior one was easily distinguished; for by drawing the uterus forwards by the uterine sound, it was found to be unattached to that body, and that its movements were quite independent of it, proving most assuredly that it was an enlarged ovarian tumour, and that it had caused the uterine displacement.

3. *Retroflexion of the uterus may be mistaken for a fibrous tumour of the posterior wall of the uterus.* A gentleman requested me to see a patient whom he supposed to be labouring under retroflexion of the womb. On the first examination of the patient, it very much resembled a displacement of that character. The os uteri was placed forwards, and looking downwards, and immediately behind the cervix was a tumour of rather large size, very painful to pressure, and presented, between the cervix and the tumour, apparently the “curve” which connected them. All these symptoms favoured the idea that it was retroflexion of the fundus; but, on examination with the uterine sound, the uterine canal was found directed forwards, and merely connected with the tumour posteriorly, which was of fibrous character and imbedded in the posterior wall of the uterus.

II. *Prognosis of the retroflexion of the fundus.* The difficulty of treating this disease exists in its liability to return. The patient may be relieved of her pain while the uterus is kept in its natural position by mechanical support; but take that away, and there is great risk of its returning to the flexed position. Many, however, do not, but are perfectly cured. There is no danger to life with this disease; but if it continues, the pains felt in the pelvis, aggravated periodically with the menstrual periods, affect the general health, and produce disease.

1. *The effects produced by the flexion of the womb.* The first, as has been well pointed out by Dr. Rigby, is sterility. The constriction of the cervix prevents the admission of the semen into the cavity of the womb, and thus becomes a mechanical hinderance to conception. I have observed many patients who have laboured under retroflexion of the fundus for many years, and during that period have never been pregnant, but have become so quickly after the uterus has been replaced. In one instance, a married woman, who had suffered from flexion of the uterus after a former labour, and who formerly conceived very quickly after her previous confinements, remained barren during the existence of the disease, and continued so until it was cured; after which she again became pregnant, and was delivered of a full-grown child.

2. *Retroflexion of the uterus induces engorgement and chronic inflammation of the ovaries, more especially in the left one.* Dr. Rigby,* who first described this complication, states that in thirteen cases the fundus was flexed towards the left in nine: one was towards the right; the other two backwards, or not observed. The fundus, from its position backwards, presses upon and irritates these organs, producing chronic inflammation, and deranged discharge, and in these cases usually there is membranous dysmenorrhœa.

* Med. Times, Dr. Rigby's Reports.

3. *Retroflexion of the uterus produces engorgement of the neck of the womb, which is often followed by slight ulcerations.* These are not frequently extensive, but are confined principally to that portion of the labia which surrounds the orifice of the womb. By the speculum, the ulceration can be seen to be small, and scattered over the surface within and about the lips of the cervix. These disappear after the replacement of the fundus; but, if numerous or large, they require treatment before other means are applied. Dr. Beatty, in the 'Dublin Journal,' for Nov. 1, 1847, gives three interesting cases, in which, by the treatment of the ulceration, he succeeded in curing the retroflexion.

III. *Treatment.* In the treatment of the retroflected womb, several circumstances may demand attention—as to the state of the patient, the period of the existence of the disease, and the greater or less amount of flexion of the uterus itself.

The virgin and the married woman suffer differently under this affection; the one presenting its symptoms without much irritation, while the other gives evidence of considerable disturbance. A knowledge of the period during which the disease had existed aids the diagnosis, and renders the prognosis favorable; and those cases which have received treatment quickly after the disease had commenced derive greater benefit from it than those which have been neglected.

The state of torsion varies considerably in different cases: in some the fundus is merely thrown backwards, while in others it is completely flexed upon the cervix uteri; and, lastly, the state of the bowels and the general health are all-important considerations in this disease.

When the fundus is partially retroflected the symptoms are slight, and the replacement of the womb may be attained by its own natural efforts, aided by depletion and position. The cases I have reported are evidences of that fact, and those detailed by Dr. Beatty corroborate the same statement. But although this treatment has been successful in some cases, there are others which remain in the reflected state after it has been fully applied, and require other and more efficient means.

The severe cases of retroflexion very seldom admit of the return of the womb to its natural position without the assistance of mechanical apparatus; and, although the preliminary means may be used with benefit in reducing the engorgement of the womb, the mechanical ones have been found to be most effectual in altering its position. The best mode of applying mechanical support to the uterus is by the use of an instrument proposed by Professor Simpson.

[Of this instrument we have given a full description, together with an illustration, in our last Volume (page 261), and we, therefore, omit the author's remarks on the subject, excepting such as refer to its mode of application, which are more fully descriptive than have been before given. These are as follows:]

The angular form of the supporter described presents considerable difficulty in introducing it into the uterus, and the small space for manipulation in the vagina adds considerably to it; so that in no case is it an easy operation. The patient should be placed on the left side, with the knees drawn quite upwards. In this position she must be placed on the edge of the bed, and the instrument applied. After having inserted a handle into the vaginal sheath of the uterine portion of the supporter, it is to be introduced into the vagina, with its angular space looking towards the sacrum, the point to be directed to the os uteri, in the *abnormal position of the uterus*. The right hand should now press on the perineum, and as far as possible enlarge the opening of the vagina, in order to allow the passage of the bulb into the vaginal canal; the point of the instrument will then be directed into the canal of the cervix. When this part of the operation is accomplished, the finger should be applied to the tumour posteriorly, and pushed gradually upwards, in order to relax the constriction of the cervix: the supporter then passes to its full extent. With a little manipulation it is turned forwards, and the operation is completed; the tapes are tied, and the patient put to bed. The introduction of the supporter presents considerable difficulties: the patient most frequently complains of greater pain when the bulb is passing into the vagina than at any other portion of the operation; and in some cases the opening is so small that the operator is obliged to suspend its introduction until the orifice of the canal is more dilated. After this difficulty has been overcome, the canal of the cervix presents

another of more frequent occurrence; the surface of it is so irregular, from its flexed state, that the supporter is unable to pass, and its contraction where the fundus is flexed upon the cervix is so small that it resists the entrance of the supporter. Under these circumstances, the "dilator" ought to be used to enlarge the orifice, and repeated several times before another attempt is made. There is usually pain on replacing the uterus; and, while being reduced, there is danger of the fundus coming in contact with the promontory of the sacrum. To avoid this, the uterus should be pulled down into the vagina, and the pain will be trifling.

Before applying the supporter itself, the uterine sound should be used, in order to reduce the swelling and engorgement of the cervix uteri, and to accustom the womb to the presence of a foreign body. When the supporter has been applied for some time, examination ascertains that the induration and swelling of the cervix have almost entirely disappeared; that the uterine tissue felt between the finger and supporter is thin and healthy; and the ulcerations, if any exist, require no treatment, and usually disappear. For a few days the patient should remain in bed, and lie as much as possible in the prone position, avoiding all irritation, and even afterwards take but moderate exercise. If the instrument is borne well, the disease will most probably be permanently cured by its assistance. The patient will be enabled to walk with ease, and attend to the ordinary duties of life. Ladies who have had the supporter applied have travelled great distances, and poor people have returned to labour for their families, who were entirely unable to do so before the supporter was applied.

In the favorable cases we have referred to, no pain or irritation exists, and a cure of the disease is generally the result. But there are other cases in which the uterus will not bear the irritation of a foreign body in its cavity, and it produces sometimes serious results. The patient, after a few days, begins to feel pain over the pubes, extending to the abdomen, which soon becomes tympanitic; the bowels are usually very much relaxed; diarrhœa is produced, and an offensive matter, accompanied by shreds of membrane, is copiously discharged. The tongue becomes furred and dry; the countenance sinks, and becomes anxious; the skin is dry; and all the appearance of an irritative fever is the result. On examination, the vagina is found hot: the instrument gives great pain on being moved, and ought at once to be removed. After this has been done, the symptoms decrease somewhat, but are to be treated usually by the application of heat, aided by that of a few leeches to the abdomen, warm vaginal injections, and attention to the bowels. These remedies soon restore the patient to health, but the uterus is afterwards found to be retroflected. I have never seen a more serious result arising from the general excitement of the system than the temporary symptoms themselves; and I have applied the instrument a second time, at a future period, without pain, and a successful issue.

In all cases in which the supporter is used, the patients suffer some pain at their menstrual periods, and in each case I have observed that the discharge was always profuse, lasting also longer than its usual period. After the discharge ceases, the pain becomes less, and the patient resumes her usual health. When the instrument has been withdrawn, and the retroflexion cured, the catamenia appear without pain; and, after many inquiries, I find that the discharge is not profuse, but of its ordinary quantity, at successive periods. In some cases where the instrument is worn, it produces considerable pain in the groins and hips. This happens about ten or twelve days after its introduction, and depends upon the lower portion of the cervix having encircled the bulb of the instrument. On examination the cervix will be found to have passed over the bulb, and grasped it firmly. This is to be replaced, and the pains will cease.

Frequently the instrument requires its position to be altered: it may be too much forwards, and irritate the bladder; or too much backwards, and interfere with the rectum: or the bulb may be too low in the vagina. These misplacements give a good deal of pain, and require to be rectified. They generally arise from the patient allowing the back tapes to be too much loosened. The period the supporter ought to be retained, in order to be effectual, varies considerably—from a month to six months, or to a year. If it is borne well, the longer it is retained the better; but this depends upon circumstances. If the instrument can be introduced easily, and its effects on the uterus are slight, a

month has been sufficient to remedy the retroflexion; but if it is with difficulty introduced, and the flexion of the uterus be considerable, the longer the time the instrument is retained the better. The usual period in those cases which have come under my care varies from two to four months; but I have one now under treatment who has had the instrument applied for five months, and she states that it gives her such relief that she intends to retain it for some time longer. I have heard of another case where it was retained in the uterus for more than a year, and the patient dying of a different disease, was examined. After death, the uterus was found to be healthy—still, however, retaining the instrument. Of twelve cases to which I can refer, which were cured after treatment by the supporter, I find that four of them had the instrument applied for one month, four for two months, two for three months, one for four months, and one for five months.

During the application of the supporter astringent lotions should be applied to the vagina, which is at first greatly relaxed, but soon regains its contractile power, and is much smaller at the end of the treatment, when it becomes able to support the uterus itself more effectually.

After the supporter has been removed, the bowels should be frequently relieved by the use of purgative medicines; and by thus keeping the rectum free, the cure may become permanent. It is very important also to favour the replacement of the uterus by the patient retaining the prone position, which is best effected by an angular couch, which has been used and recommended by Dr. Rigby, where the patient can use the prone position, and still amuse herself with either reading or working.

On reviewing the foregoing observations, we have come to the following conclusions:

1st. That retroflexion of the uterus is much more common than it has hitherto been supposed to be by the profession.

2d. That the disease may exist without causing any marked symptoms.

3d. That the disease, being known to exist, may disappear without treatment.

4th. That the disease may be cured by depleting means, accompanied by the replacement of the womb by the uterine sound.

5th. That the uterine sound, which was introduced to the profession by Professor Simpson, is a very valuable instrument in the diagnosis of the disease.

6th. That protrusions of the rectum, and great agony on passing a motion, usually depend upon the retroflexion of the uterus, and are cured on its replacement.

7th. That the disease produces considerable hysterical symptoms both in the virgin and married state, which are entirely removed after treatment.

8th. That retroflexion produces, and is the cause of dysmenorrhœa—

a. By the expulsive pains in many cases caused by the exertions of the uterus to expel the catamenial discharge from its cavity.

b. By producing pressure and irritation in the ovary, the discharge becomes accompanied with shreds and membranous exudations.

9th. That Professor Simpson's supporter, in the treatment of this disease, produces the happiest effects, in entirely removing the local symptoms; and, in the majority of cases, produces a cure; but it must be remembered that in some cases the uterus will not allow of the irritation of a foreign body, which must then be removed, and other treatment substituted; and, lastly, that the instrument may be retained for a considerable time—for months—without giving any pain or uneasiness to the patient; and yet, on its withdrawal, the uterus may return to its retroflected state.

ART. 69.—*On Inflammation and Abscess of the Uterine Appendages in the Non-puerperal state.* By HENRY BENNET, M.D.

(*Lancet*.)

[The author premises his paper by an historical notice of the affection, commencing with the earliest writers, and also with an anatomical description of the parts engaged, of neither of which is it necessary to make further mention. He

then proceeds to describe the seat, causes, symptoms, and progress of the disease, as follows:—]

Seat. Inflammation occurring in the region which I have described may attack the cellular tissue alone, in which case it is a purely phlegmonous inflammation, or the ovaries alone, or the Fallopian tubes alone; or it may attack all together. In either case, the peritoneum itself may or may not be compromised. Owing to the anatomical localization of these organs, to their lying in the same anatomical region, and their having the same anatomical relations, the symptoms and history of inflammation in them are so similar that it would be difficult if not impossible, and certainly useless, to attempt to describe inflammation in each separately. I shall, therefore, treat generally of inflammation in this region, pointing out, as I proceed, any difference which may exist, and which is really susceptible of being appreciated.

The peritoneal folds themselves are very seldom attacked in non-puerperal inflammation of the uterine appendages. When inflammation occurs in this region, *after* parturition, there is a great tendency in the peritoneal membrane to take on the inflammatory action, as is the case when the uterus itself is then the seat of inflammation. In the unimpregnated non-puerperal condition, on the contrary, there is very little tendency to inflammation in the peritoneum, and the organs contained between its folds may remain inflamed during months or years without its being compromised. This is a singular pathological fact, but one which is equally true when applied to inflammatory affections external to the peritoneum in any other point of the pelvic and abdominal cavities. Even when peritonitis does complicate the attack in the non-puerperal state, it seems rather to have a tendency to localize than to extend its action, the contrary to which obtains in the puerperal condition.

In non-puerperal inflammation of the lateral ligaments, the disease is very evidently limited, in most instances, to the cellular tissue and to the organs contained within them, and does not extend to the free cellular tissue of the pelvic cavity. This circumstance induces me to think that in the puerperal form the disease is, generally speaking, similarly limited at first, although such is not the prevailing opinion.

Causes. The causes of inflammation of the lateral ligaments in the non-puerperal state are the same as those of acute metritis. Any physiological or pathological action which is calculated to exaggerate the vitality or to arrest the functions of the uterine system, may be followed by this form of inflammation. Inflammation may attack the lateral ligaments directly or indirectly; directly when they are primarily affected—indirectly, when the uterus is first inflamed, and the inflammation extends from it to the ligaments. The cellular tissue is evidently much the most frequently the seat of the disease, as might be anticipated. The cause which, in the very great majority of cases, gives rise to the inflammatory attack is arrested menstruation. I have also repeatedly seen it manifest itself in persons labouring under chronic inflammation and ulceration of the cervix. In two or three instances I have known it to follow a severe fall. Even in these cases, however, the appearance of the inflammation of the uterine appendages generally takes place in connexion with menstruation.

Symptoms. The symptoms of inflammation of the uterine appendages are, at first sight, very similar to those of acute metritis. There are the same general febrile symptoms, the same severe pains in the lower hypogastric region, and, on attempting to walk or to stretch the body in the erect posture, the same abdominal tenderness and sensation of weight deep in the pelvis, the same vesical irritation and difficulty in defæcation. On closer inspection, however, we may appreciate some dissimilarities. The pain is greatest at a little distance from the median line, in the right or left ovarian region, more frequently in the latter. If the patient can bear pressure, and the abdominal parietes are not too thick or too rigid, a deep-seated swelling or tumour is frequently perceived in the ovarian or iliac region. Sometimes the tumefaction is perceptible to the eye from the first. The presence, however, of these symptoms is seldom sufficiently conclusive to enable the practitioner to distinguish inflammation of the lateral ligaments from acute metritis.

In order to clear up the doubt that otherwise must necessarily remain respect-

ing the true nature of the disease, it is indispensable that a careful digital examination should be made. This is, in my opinion, effected most satisfactorily, the patient lying on her back, the knees elevated or flexed. The forefinger being introduced into the vagina, the elbow should be depressed, so that in penetrating it may adapt itself to the axis of the pelvis. The pulp of the finger may thus be carried underneath and round the cervix, which should be carefully and accurately examined. By then pushing back with the finger the cul-de-sac of the vagina, where it is inserted on the cervix, the state of the body of the uterus, of the adjoining uterine organs, and of the pelvic cavity generally, may be ascertained with extreme accuracy, especially if the left hand is applied at the same time over the lower hypogastric region above the pubis.

When this mode of examination is adopted in the healthy female, the bladder being previously emptied, the finger may push the vaginal cul-de-sac before it on the side of the uterus for an inch or two, and may be made to approximate within a very slight distance of the hand applied externally, and that without giving the slightest pain. The practitioner feels, with the greatest distinctness, that his fingers are only separated from each other by the thickness of the abdominal parietes, and by tissues (the lateral ligaments) which present no density or resistance. When the tissues contained in the lateral ligaments, cellular tissue, ovaries, or Fallopian tubes, are inflamed, thickened, and indurated, the state of things is very different. On attempting to push back the vagina on the side of the uterus we find an unusual resistance. The vaginal cul-de-sac has disappeared, and resting on the side of the cervix and body of the uterus there is an indurated swelling, very different from what obtains on the other or healthy side, supposing disease to exist on one side only, as is most frequently the case. Pressure on the indurated tissues is attended with very great pain, and there is a marked increase of the natural heat of the parts. On carrying the finger behind the inflamed tissues, whilst the abdomen is gently depressed with the left hand, we ascertain that the inflammatory tumour, situated between the hands thus placed, is movable and quite distinct from the parietes of the pelvic cavity. This tumour is generally applied, as it were, to the side of the uterus, so that it only constitutes one mass with that organ. Thence it is, no doubt, that inflammation in the lateral ligaments is generally confounded with metritis, even when a digital examination is resorted to, and the presence of an inflammatory swelling recognised.

If, notwithstanding a careful vaginal examination, there are doubts as to the nature and extent of the swelling, the uterus and annexed organs may also be examined with benefit digitally, through the rectum.

Progress and termination.—Acute metritis, in the non-puerperal state, generally ends by resolution or by passing into the chronic stage; suppuration is a comparatively rare event, owing to the very small quantity of cellular tissue existing in the structure of the uterus. Inflammation in the lateral ligaments, on the contrary, generally ends in suppuration. It is, in reality, in most cases, a purely phlegmonous inflammation; and the great tendency of phlegmonous inflammation to terminate by suppuration is an axiom in pathology. Although much less liable to end in suppuration than inflammation of the cellular element, ovaritis is also more frequently followed by suppuration than acute metritis. Suppuration may, consequently, be looked for in the course of a few days from the onset of the inflammation, unless the latter has been checked by early and energetic treatment. A prepared and attentive observer may recognise suppuration having taken place by rigors and other symptoms that accompany internal suppurations, by the lull that follows in the general and local symptoms, and sometimes by a deep-seated sensation of fluctuation perceived through the vaginal or even through the abdominal parietes.

Once the pus has formed, being closely confined in the region which has been described, if it is not absorbed, as is sometimes, although rarely the case, it endeavours to find a vent. Adhesive inflammation connects the phlegmonous tumour with the vagina, rectum, abdominal parietes, or bladder; and in the course of a variable period, but generally before the acute inflammatory symptoms have subsided, the pus finds an exit in one or more of these directions. It is almost invariably by the upper portion of the vagina, or by the rectum, that the pus escapes in the non-puerperal form of inflammation. I can scarcely recall to mind an instance in which I have seen the pus make its way through the abdominal parietes

in non-puerperal inflammation, except in a case or two in which there was a serious and permanent cause of disease in the uterine appendages, such as supplicated tubercles. When, however, this is the case, it is only after the inflammatory action has lasted for weeks, or even months, that the pus reaches and perforates the abdominal integuments; and nearly always long before the external perforation takes place it has found its way out of the pelvis through the vagina or rectum. The emptying of the abscess into the bladder is of still less frequent occurrence, and is, likewise, generally preceded by the formation of a vaginal or rectal opening. Sometimes the abscess will open into all these directions successively. In some instances the pus appears to escape from the neck of the uterus, as if the abscess had emptied itself into the cavity of that organ. I think, however, that when this is the case the real explanation is, that the phlegmonous tumour of the uterine appendages is complicated with metritis; and that an abscess, formed in the walls of the uterus, has thus opened into the cavity of the organ. An abscess primitively formed in the lateral ligament would be scarcely likely to work its way through the thick unyielding wall of the uterus; at least not unless the uterus participated in the inflammatory action.

Generally speaking, as I have stated, the abscess opens into the vagina or rectum, or into both. That such should be the case is at once accounted for when we consider the position of the phlegmonous tumour with reference to these organs, with which it is in immediate contact. The perforation mostly occurs during some exertion, such as a fit of coughing, or the act of defecation, and in so latent a manner that it is not perceived or mentioned by the patient, unless her attention is previously directed to the point by her medical attendant. This, however, is seldom the case in non-puerperal abscesses, as she is not herself aware of the nature of the disease, and believes his patient to be merely labouring under metritis. The passage of even a considerable quantity of pus from the vagina is generally thought by the patient to be only an increased flow of the whites; and the escape of pus along with the fæces is still less likely to attract her attention. Women, from a natural feeling of delicacy, require to be closely questioned with regard to uterine symptoms, seldom giving any information respecting themselves spontaneously. Sometimes the perforation is accompanied by a bursting sensation, of which the patient is perfectly sensible. It may take place within a few days of the onset of the inflammation, or it may be weeks before it occurs. The quantity of pus passed varies from a few drachms to half a pint, or more.

It is owing, no doubt, to the formation and escape of the purulent collection from the cavity of the pelvis thus taking place in so insidious and latent a manner, that unless carefully looked for, it is neither perceived by the patient nor her medical attendant, that these cases have hitherto been generally overlooked, and that the more severe forms and instances of the disease have alone been recognised and recorded.

The escape of the pus through the vagina is the most favourable manner by which it can make its way externally. Its presence, no doubt, occasions a certain amount of irritation of the mucous surface over which it passes, but that irritation is scarcely ever considerable. The next most favorable termination is the penetration of the pus into the rectum. When this occurs there is generally great irritation of the intestinal mucous membrane. Either the ulcerative inflammation of the coats of the rectum, or the presence of the pus, seems to be attended, in most instances, by a considerable degree of dysenteric irritation of the lower bowel, which sometimes lasts several days. In both cases the openings by which the pus penetrates into the rectum and vagina are generally small. In the vagina we cannot frequently detect the precise spot at which the pus has perforated the parietes; nor is it easier to discover it with the speculum. An instrumental examination, however, is scarcely ever necessary, or even admissible, in the acute stage of this disease, owing to the tenderness of the vagina and internal tissues.

The escape of the pus by the parietes of the abdomen is always preceded and accompanied by considerable inflammatory swelling, and inflammation of the surrounding tissues and of the abdominal walls. The phlegmonous tumour is a long while in reaching the exterior, and gradually involves all the structures which separate it from the skin; thus giving rise to an extensive inflammatory tumour of a very painful and distressing nature. The sympathetic and reactional symptoms

are necessarily very severe in these cases. But the entire series of symptoms, both general and local, which attend the cases in which abdominal perforations occur, may be considered as more especially characteristic of the puerperal form of the disease, as they are scarcely ever met with apart from it.

When the pus has fairly escaped from the pelvic cavity a marked change is observed in the state of the patient. There is a decided lull in all the symptoms. The deep-seated pelvic pains diminish, as also the abdominal tenderness and swelling, and the febrile symptoms rapidly subside. In very many cases the improvement is so rapid, especially when the abscess has opened by the vagina, that the patient is soon considered quite convalescent, and in hospital practice discharged as cured. This improvement, however, although real, is very deceptive with reference to the future. On making a careful digital examination of a patient so situated, we find that the tumour on one side of the uterus is exceedingly diminished in size, that it is no longer so sensitive to the touch, and that there is less heat and tenderness in the upper part of the vagina, and on the side which is in contact with the phlegmonous swelling. But although thus less in size and less inflamed, the inflammatory tumour is, nearly always, still perceptible. Part of it has melted and suppured, but part remains in a state of semi-chronic inflammation and induration, as is usually the case with suppured phlegmonous tumours.

The symptoms which pertain to a chronic uterine inflammation will, consequently, be found *still* to exist, on a close examination. Pain, heaviness, and bearing-down deep in the pelvis; tenderness, pain, and often swelling, in one or both of the ovarian regions; pain in the lower part of the back; inability to stand or walk for any time, and especially to go up and down stairs—these symptoms may be more or less apparent.

The orifices by which the pus has escaped into the vagina or rectum generally remain open, and thus allow the pus to discharge itself as it is formed. Sometimes, however, they close in the course of a few days. When this is the case, if pus continues to be formed, it collects again, forms an abscess, and before it again escapes, by ulcerative inflammation, reproduces, generally in a mitigated form, the acute inflammatory symptoms previously experienced.

Were these inflammatory tumours not exposed to the influence of perturbing causes, they would, no doubt, in most instances, gradually become absorbed, and the relapses just described would be slight and unfrequent. Such, however, unfortunately, is not the case; at least in a large proportion of the cases met with. The *molimen hæmorrhagicum* which accompanies menstruation, or any other exciting cause, may arouse the dormant inflammatory action in the still indurated and tumefied tissues. When this occurs, the acute symptoms of the disease reappear; matter again forms, and forces its way into the vagina or rectum; in the latter case again giving rise to dysenteric symptoms.

These exacerbations, or returns of acute disease, become less and less frequent as the inflammatory tumefaction of the uterine appendages diminishes, and as the diseased tissues return to their natural condition. The disease, however, is essentially chronic; and a female who has suffered from inflammation and suppuration of the lateral ligaments, even in its mildest form, may be from several months to one or more years before all trace of local inflammation has disappeared, and before she can be said to be radically well. During this lengthened period she is never quite free from symptoms of uterine irritation, and remains subject, at intervals more or less distant, to the acute exacerbations which I have described.

Whilst thus suffering, the menstruation is always more or less modified. Sometimes it is absent for months; sometimes its appearance is only delayed for a few days or weeks. Generally speaking, the menstrual period is curtailed, the quantity of blood lost is diminished, and great pain is experienced during the entire period of the menstrual secretion.

Long before the local tenderness gives way, and before the patient can be pronounced well, all traces of induration or swelling, as appreciated by the touch, either through the vagina or through the abdominal parietes, will be found to have disappeared. The formation and escape of matter comes to a close at even a much earlier period, before the induration has melted and ceased to be recognisable to the touch.

Such is the succession of morbid symptoms observed in the milder or non-*puerperal* form of inflammation of the uterine appendages. Although generally over-

looked, owing to a want of knowledge of the pathological facts which these symptoms represent. this affection is, in reality, as easy to recognise and to follow, in the evolution of its phenomena, as many better known diseases.

ART. 70.—*Bitartrate of Potash in Uterine Hemorrhage*.—[Dr. Silvester speaks highly of the virtues of this medicine. He observes:]

Everybody is acquainted with its cooling, diuretic, and generally aperient properties, but few are aware of its singular power in controlling uterine hemorrhage. It is not without effect in bleeding from other organs, but I will reserve my observations on this branch of the subject for another opportunity, and restrict myself for the present to a few remarks on its efficacy in restraining chronic sanguineous discharge from the womb.

Uterine hemorrhage may arise from various causes,—separation of the placenta or ovum, diseases of the heart and liver, polypus, malignant ulceration, fungoid growths, &c.; the bitartrate in such cases is equal to any other remedy in checking the discharge, at the same time that it allays feverishness, and tends to keep the bowels regular. But it claims no superiority in these respects over many other medicines; it is in menorrhagia, or excessive menstrual discharge, prolonged continuously beyond its usual duration, or appearing at irregular intervals, that it displays its unequalled efficacy. Sometimes after abortion the patient continues to suffer from an occasional discharge, which gradually ceases after inflicting much injury on the general health, and is with difficulty cured by tonics and astringents; it will in such cases be found to effect an almost instantaneous beneficial change. There are also instances met with in practice of a sanious or pale secretion from the uterus, sometimes treated as leucorrhœa by local astringents; they are accompanied by venous bruit, and are examples of imperfect menstruation. These yield rapidly to the bitartrate of potash, and, singular to say, the patient often recovers perfectly without the administration of iron or other tonics. The foregoing description of the forms of disorder in which the salt alluded to produces a specific effect, will be sufficient for the information of the medical practitioner, who, after a little experience, cannot fail to detect the proper cases for its employment. It would be tedious and irksome to relate individual illustrations in confirmation of the opinions advanced; they are easy of recognition, and the specific property of the drug is so conspicuously evident, that it is probable many will be able to bear testimony to the truth and the accuracy of what has been now stated.

Without pretending to explain the nature of the salutary impression made by this agent on the solids or fluids of the body, I may be allowed to observe, that when, as in chronic discharges, the blood is dark-coloured, it often becomes of a brighter hue soon after the commencement of the treatment.

Prov. Journal, Sept. 6th.

ART. 71.—*Case of Excision of the Anterior Lip of the Os Uteri, with Ulceration*.—[Dr. Clay narrates the following case which occurred in his own practice:]

Priscilla T—, æt. 45, applied to me for what she termed a bearing-down, but had been told there was no cure for her. She had come some distance. I sent her into my private hospital, where I went to examine her by the speculum, and found what she had described a bearing-down to be a very peculiar elongation of the anterior lip of the os uteri, the tip of which was ulcerated, the elongated part was at least two inches. It was accompanied with prolapsus, and caused her considerable annoyance, interfering with defecation as well as the passing of urine; the tip of the elongated part, as well as the opposite lip of the os uteri, was slightly ulcerated. Her constitution had been sinking for some time. Leucorrhœal discharges, want of appetite, yellow tinge of the skin, and general weakness, all indicated considerable depression, increased by being told that her case was incurable. I commenced my treatment by the exhibition of quinine and citrate of iron internally, with an occasional blue pill, as the functions of the liver (as is usual in such cases,) were sluggish; and introduced a medicated pessary of iodide of lead every night, consisting of

R Iodidi plumbi, ℥f,
Cermæ flavæ, ℥v,
Axungia, ℥vj ℥; div. in pessos iv.

After a few days the ulcerated surfaces put on an improved appearance, and her general health was much better. I thought, however, the cure would progress still more rapidly if the elongated part was excised, which was done, and the tinct. ferr. mur. used to the surface twice a day by means of a sponge tent, still continuing the quinine and citrate of iron, with blue pill internally. In the course of three weeks the parts had assumed their normal position so nearly, and so little of the ulcerated surface remained to be healed, that I sent her home with a zinc wash, to return in about ten days. The case is now well.

ART. 72.—*Acute Peritonitis simulated by Prolapsus Uteri*.—Dr. Meigs states that he has met with about thirty cases in which excessive neuralgia of the whole abdomen, with sensibility equal to acute peritonitis, proceeded slowly from a slight degree of prolapsus uteri. One of these cases he subjoins:

On the 5th of July, 1823, Dr. Meigs was called to a mulatto woman, æt. 30. She was lying on her back, with the knees drawn up, and supporting the bed-clothes with her hand, lest they should press upon the abdomen. She had suffered this pain for several hours, and had short, quick respiration, &c. Upon hearing her account, Dr. Meigs was at first convinced that she was labouring under intense peritonitis, but upon examining the pulse, which he expected to find tense and corded, he was much surprised to discover that it was nearly natural as regarded frequency and hardness. This incongruity led to further inquiries. She had borne several children. Dr. Meigs (he does not say why) now became convinced that her pains were those of prolapsus; and examining per vaginam, he found the uterus low down. By pushing up this, the abdominal pain suddenly ceased, and the woman could bear pressure without shrinking. The pain was reproduced by allowing the uterus to descend.

Females and their Diseases, p. 132.

ART. 73.—*Prevention and treatment of Abortion.*

BY DR. TYLER SMITH.

(*Lancet*, April 29, 1848.)

[The following remarks are in continuation of the extract from *Lectures on Parturition*, contained in our last Volume.]

Careful and minute attention to all the various causes of abortion is the true basis of preventive measures. In the prophylaxis of abortion, I propose to follow the order I have already observed in treating of its causes, dealing with the palliation or removal, in the first place, of the ex-centric; in the second, of the centric causes of this accident. I use the word abortion in its largest sense, including every variety of premature expulsion of the impregnated ovum.

With reference to mammary irritation, it is hardly necessary to observe that weaning ought always to take place as soon as the occurrence of pregnancy, during lactation, becomes evident. Gestation and lactation ought never to be permitted to go on at the same time in the same individual, or the child at the breast and the child in the womb must mutually suffer. After weaning, mammary irritation is at once removed, and instead of the exhausting and abnormal irritation in the direction *from* the breast *to* the uterus, there comes into operation the healthful and physiological stimulus or synergic action *from* the uterus *to* the breasts, which prepares them for the new lactation when the fetus in utero has arrived at maturity.

With respect to dental irritation, it is just necessary to bear in mind that this is occasionally, and in rare instances, a source of uterine disturbance. When the process of dentition (the appearance of the wisdom teeth) and utero-gestation meet in the same subject, the alveolar irritation should be kept under by leeches or scarification, on just the same principle as we should lance the gums during excito-motor disturbance in the first dentition, to prevent spinal erythismus and convulsions. In the caries, so common in pregnancy, and which often attacks several teeth at the same time, extraction of the diseased teeth should be avoided as much as possible. In the first place, as the pain involves the nerves of many teeth, oftentimes the whole of one side of the jaw affected being neuralgic, the extraction of one or two of the offending teeth will not afford permanent relief.

The uterine irritation remaining, the pain is generally transferred, after extraction, in all its intensity, to the nerves of the neighbouring teeth. In the second place, caries and toothache do not affect the nervous system so much as the sudden violence and the emotional disturbance of extraction. It is truly distressing to witness the almost continual misery in which some women pass through the epochs of utero-gestation and lactation from faulty teeth. This is particularly the case with the wealthier class of patients; and the fact should urge very strongly upon parents the necessity of attention to the permanent dentition in young girls, for with this process the health of the future mother is most intimately connected.

The preventive measures relating to vesical irritation are very simple. In the most formidable irritation of this kind—the concurrence of calculus with pregnancy—and which is necessarily extremely rare, nothing but palliative measures can be resorted to during gestation. The cure must be left to the unimpregnated state. Strangury and urinary deposits, attended with pain and irritation, must be treated carefully, but just as in the unimpregnated condition. Distension of the bladder during pregnancy should be avoided, and actual retention relieved regularly by the catheter. Attention to the state of the bladder is the more necessary in pregnant women, as the accidental distension of this viscus may, in the early months of pregnancy, cause retroversion of the uterus, and this, in turn, will produce permanent retention of the urine; the conditions of the bladder and uterus thus uniting to occasion danger of abortion.

I now come to the preventive measures which relate to ovarian irritation. Here our cautionary plans should be chiefly confined to the catamenial or periodic dates. Patients suffering from severe ovarian irritation during pregnancy should be treated in the periodic exacerbations, much in the same way as we should treat dysmenorrhœal patients during the actual periods attended by pain and difficulty. Warm hip-baths, not exceeding blood heat; warm enemata of the same temperature; the application of a plaster of opium or belladonna over the sacrum; and most especially the avoidance of coitus during the periodic dates of pregnancy should be directed. As regards the blind periods of utero-gestation, as they may be called, continence is as proper in all cases at these times as it is during the actual flow of the catamenia. It is during the first half of pregnancy, or in those women who have suffered from dysmenorrhœa before impregnation, that moral and physical sedatives should be most strictly enjoined. I may here observe, that in dysmenorrhœal cases the times of conception are probably times of abortion, the impregnated ovum descending at once through the Fallopian tubes, uterus, and vagina, with an apparent return of the catamenial discharge, instead of tarrying for development in the uterus, so that women, under these circumstances, may never be conscious of having conceived, though they really do so. There can be little question but that many supposed cases of sterility are of this kind: owing to increased excitability of the motor apparatus of conception, the generative act never goes beyond impregnated oviposition; abortion follows so closely upon abortion, that neither the conception nor the abortion are perceived. Such cases, admitting, as they do, of almost certain remedy, are very different from cases of actual sterility. I have just said, that in ordinary instances of abortion excited by ovarian irritation, it is during the early months that precautionary measures are of most importance; but in those extraordinary cases in which abortion is caused by the adhesion of the placenta to the os uteri, it is in the latter periodic dates of pregnancy that the greatest danger is incurred. I mentioned to you in the last lecture, that, even when not the exciting cause, ovario-excitator action was still in many cases the determining cause of premature action of the uterus; so that in all cases of threatened abortion it behoves the medical attendant to treat the periodic dates with circumspection.

The questions of *rest* and *exercise* are of considerable importance in cases of expected abortion. Some authorities advise regular exercise; others, absolute repose from all exertion. There can be no doubt that walking exercise, carried to excess, excites all the pelvic organs, both the uterus itself, and those organs which are in reflex relation with it; and there can also be no doubt that exercise, which in the unimpregnated state is simply moderate, comes to be excess in the gravid subject. On the other hand, rest, and the habits of ease and indulgence,

living on sofas and pillows, during pregnancy, favours the accumulation of irritability in the muscular system, including the uterus, and in this way increases the chances of abortion.

The precautionary measures connected with rectal irritation are very simple. They consist chiefly in the avoidance or removal of intestinal accumulations by laxatives and mild enemata; the removal of *ascarides*, when these worms are present; the palliative treatment of hemorrhoids, all operations upon the lower bowel being avoided as much as possible during gestation; and lastly, the avoidance of drastic purgatives. It is, in fact, only necessary to recognise the rectum, not merely as a neighbour to the uterus, but as possessing an excitor surface with excitor nerves, prone to reflect irritation upon the uterus, through the spinal centre and the utero-spinal nerves, and the prevention of abortion as a consequence of rectal irritation becomes easy and well understood. Rectal and vesical irritation, as causes of abortion, have always been recognised; but this recognition is more practical when we see the exact channels—the mechanism, in fact—by which irritation is conveyed from one organ to the other.

The prevention of vaginal irritation in women liable to abortion from habit, or in whom special symptoms lead us to expect this accident, involves as a preliminary the observance of the most rigid continence. In women who have aborted in previous pregnancies, sexual separation ought to be maintained during the whole of pregnancy; and in all irritable subjects, coitus should be avoided during the ovarian periods of the gravid state. In cases where tumours in the vagina complicate pregnancy, it may become necessary to remove them, both to prevent abortion and to facilitate parturition. In all operations affecting the vagina, they should be so timed as to avoid the ovarian periods, and to fall upon what would be the intercatamenial dates, when all irritation and disturbance can be better borne. I have already referred to the use of the plug or tampon sometimes necessary in threatened abortion with hemorrhage, in cases where we still hope to save the ovum; the plug should not be so large as to stimulate the vaginal surface excessively, and it should be fairly introduced into the upper and roomy part of the passage, so as not to irritate the ostium vaginæ; at the same time there should be nothing like hard pressure on the os and cervix uteri. Whenever the pressure of the tampon, carefully applied, permanently increases the periodic pains felt in threatened abortion, it should at once be withdrawn, unless we have resolved to abandon the ovum to its fate. The plug ought never to be left in the vagina more than twelve hours at a time, otherwise it becomes extremely fetid and disagreeable, and probably injurious; it is better even to take it away and renew it oftener than this, and to dip it in a weak solution of the chloride of lime before its introduction.

In threatened abortion from uterine disturbance, we may have to deal with morbid affections of the uterus, with disease of the placenta and membranes, or with disease of the uterus itself.

Any persistent irritation of the uterus, but particularly of the os and cervix, as the most excitor parts of the organ, may cause abortion; this is as natural as that irritation of the lungs should produce cough, or that irritation of the stomach should cause vomiting. In these cases we may have to deal with malignant disease of the uterus, syphilitic or gonorrhœal affections; or simple uterine disease, as inflammation, excoriation, or ulceration. In malignant disease complicated with pregnancy, our treatment can be little less than palliative; in syphilitic disorders, we must cautiously pursue the same treatment as would be proper in the ungravid state; and in inflammatory diseases of the os and cervix, and their sequelæ, we must not shrink because of the existence of pregnancy from the careful use of the local applications necessary to effect a cure. Unless the uterine disorder is removed, there must be considerable danger of abortion. The original observations of MM. Boys de Loury and Costilhes, and the researches of Dr. Henry Bennet and Mr. Whitehead, in this country, show clearly that inflammation and ulceration of the os and cervix uteri, with mucous or purulent leucorrhœa, frequently coexist with pregnancy; that they are a common cause of abortion; and that they may be treated successfully during gestation, without necessarily disturbing this process. Whenever there is pelvic pain and leucorrhœal discharge in gravid patients who have aborted in previous pregnancies, the condition of the os and cervix uteri should be positively ascertained. The treatment found most successful in cases

of inflammation, excoriation, or ulceration, of the lower segment of the uterus is sufficiently simple, namely, local abstraction of blood, and occasional cauterization of the diseased sites; every possible care being taken to prevent local and constitutional disturbance following from the treatment.

Retroversion of the uterus, though sometimes a cause of abortion, generally requires treatment and reposition, for more immediate symptoms than the premature contraction of the uterus upon its contents. In plethora of the pelvic circulation, and in congestion of the uterine vessels not amounting to inflammation, local depletion by leeches, either above the pubes, or applied to the os uteri directly, is advisable. I have often seen great comfort and relief from the sense of uterine heat and distension, produced by constantly wearing a pad, wetted with spirit lotion, over the pudendum.

In the prevention of abortion, morbid conditions of the placenta require to be considered. The placenta is to the fœtus what the branchia are to the fish, the blood of the mother being the fluid medium in which the fœtus respires oxygen during intra-uterine life, a point which has been ably insisted upon by Professor Simpson. For this reason it appears to be, that the blood of the mother during pregnancy is more highly oxygenated than at other times, approaching to the state of inflammation, as may be seen by the buffy coat and the greater coagulability present in the blood drawn from pregnant women. The placenta has a tendency to become unfit for fetal respiration towards the end of utero-gestation, when Nature is preparing for the change from branchial to pulmonary breathing. There is frequently observed on the surface of the mature placenta crystals of carbonate of lime, which must tend to interfere with its functions as a respiratory apparatus, and generally, I believe, to facilitate its separation from the uterus. This caducous preparation of the placenta, by the deposition of the salt of lime, is probably connected with the demand for ossific matter in the fœtus, but it must also remind you of the similar deposit of silica in the stems of ripe fruit, in order to facilitate its separation from the parent tree; or we may compare it to the deposit of earthy salts in the lungs and other organs in old age, as preparatory to the death of the individual. It is pretty certain that in some cases of abortion in the latter months, caused by the death of the fœtus, the death has depended on the lower respiring power of the placenta, the placental development having progressed so rapidly as to render the organ prematurely deciduous. Under these circumstances the child dies asphyxiated, unless born into the atmospheric air, just as the tadpole perishes when its branchial development has concluded, unless it can be removed from water to the air. In the opposite cases to this, we have sometimes to deal with retention and adhesion of the placenta, because it is not ripe for its separation at the time of labour. Other morbid conditions of the placenta may tend to the death of the fœtus, and indirectly to abortion, such as inflammation and induration of the organ, tubercular deposit, or effusion of blood into its structure—placental apoplexy, as it might be called; but such morbid states are obscure in their diagnosis, and very much removed from definite treatment. . . .

In disease of the fœtus, producing death, and abortion several times in succession, I fear little can be done beyond attending to the health of *both* parents. Some have recommended active treatment directed to the fœtus, founded upon the former post-mortem examinations of the fœtus; but a diagnosis in which, as at present, our knowledge of the state of the fœtus actually *in utero* depends on the examination of a previous fœtus, can hardly be depended on as a basis of treatment, notwithstanding the acknowledged tendency to repetition observed in intra-uterine disease. When the death of the fœtus has taken place, the natural result is an abortion forthwith. The respiratory changes going on in the placenta cease, and, as a consequence, the utero-placental circulation is very much diminished, or it is arrested altogether. The temperature of the fœtus falls, and the state of the fœtus and placenta excites premature contraction of the uterus, as mechanically as the rupture of the membranes or the insertion of a tent in the os uteri. In some comparatively rare cases the circulation still goes on in the uterine portion of the placenta, and the fœtus is retained to the full term. Or in cases of twins, there may be an abortion of a dead fœtus and the retention of a living one to the full term of gestation. In all these cases, whether the irritation be in the uterine tissue itself, or conveyed to the uterus

by a diseased or dead ovum, the mode in which the uterus is excited is reflex and spinal, and abortion can only be prevented by diminishing or removing the utero-spinal excitement.

The prevention of abortion depending on habit, and occurring at a particular date of pregnancy, chiefly consists in taking all care to avoid the sources of uterine excitation until the time of danger has been passed. Dr. Griffin, of Limerick, treating the abortive habit as a periodicity, has proposed to administer large doses of quinine; and the suggestion may be useful in some cases. I strongly suspect that one frequent cause of periodic abortion arises out of immaturity of the uterus itself. In practice, we meet with many cases where, although menstruation has appeared, and marriage has been consummated, the uterus is very small indeed—not much, if at all, larger than is natural in the young girl. Such subjects are open to many inconveniences. In cases of this kind, if conception takes place, the uterus is unfit for the full development of the gravid state; and when it has reached the largest size of which it is capable, abortion inevitably takes place. Sometimes we find, in these cases, that the capacity of the uterus for gestation will increase with every pregnancy, or with increasing years, until, after many abortions, the uterus becomes developed, and the full period is reached in safety. Other forms of abortion, sometimes set down to habit, may depend on those diseases of the uterus which are most troublesome at particular epochs of pregnancy—such, for instance, as retroversion, or ulceration of the os uteri.

In cases of emotional abortion, we can do little in the way of prevention. The indication is of course to keep the mind, and particularly the uterine system, as tranquil as possible after all emotional shocks occurring during pregnancy. As it is generally some few days after the mental shock that the uterine disturbance begins, we have the time in which to do this afforded us; but the effects of emotion of a severe kind can never be altogether averted. Where there is already a tendency to abortion from other causes, emotional disturbances should be especially avoided. We may have the symptoms of abortion passing away, when some sudden ill news, an apprehension of fire, or any other acute disturbance, will produce an instant contraction of the uterus, and the expulsion of its contents. Abortion appears to be prevalent at particular times; but this epidemic is generally, I suspect, rather one of emotion than the result of physical agencies. During the present time, when public catastrophes and apprehensions of evil are rife, and the throne and the cottage are alike agitated, I believe there is an unusual tendency to abortion. I am certain that I have seen several recent cases referable to this cause.

To eradicate the abortive diathesis, prolonged continence ought to be observed. A year's entire rest to the sexual system is not too much in severe cases; and the catamenial periods should be carefully attended to. Dysmenorrhœa should be relieved, if there happens, as there frequently will happen, to be a tendency to this disease. Any disease of the utero-vaginal passage should receive appropriate treatment. Everything which can possibly be devised should be resorted to, to give tone to the uterine nervi-motor system—such as the administration of iron in delicate subjects, the cold douche to the loins, and general cold bathing. In very obstinate cases I should be disposed to try the effects of a continued galvanic current through the spine and the sexual organs; or I would prescribe small and continued doses of ergotine or strychnine as tonics of the utero-spinal axis. The general sedatives of the nervous system during pregnancy are moderate exercise, spare and cool diet, small bleedings in plethoric or in sanguine habits, mental quiet, tepid or cold hip-baths, and, above all, a pure atmosphere. The nervous system in pregnant women resembles in its irritability the nervous system in infants and young children; ordinary narcotics are therefore stimulant rather than sedative, and as such ought not to be prescribed in ordinary cases during utero-gestation.

ART. 74.—*On Occlusion of the Os Uteri and Vagina.* By DR. TRASK.

(*Amer. Journ. of the Med. Sciences*, July, 1848.)

The present communication arose out of considerations connected with one lately published (see next Art.) by the same author. Among the causes of

rupture of the womb, obliteration of these parts appears as an occasional occurrence, and was thought worthy of more detailed examination. The author, in the first place, narrates twenty-one cases of complete occlusion of the os, upon which he bases an inquiry into the causes, pathology, natural termination, and different modes of interference, with their results.

In two instances the lesion was traced to inflammation following severe instrumental labour; in another to the same cause arising from ordinary labour; and in another to inflammation after abortion. In others it was the result of attempts to procure abortion, or to congenital malformation. As to the condition of the parts: In one case no os could be felt, but in its place a firm point, with three diverging ridges. In others, no locality for the os was perceptible. In others, cicatrices pointed out where the os had been situated. In some instances the os was obliterated by a tough membrane united to its margin, which was broken through by the finger, or by the aid of the female catheter. Naegele attributes the production of this membrane to chronic inflammation of the cervix, which explanation is also admitted by Dr. Ashwell. (Guy's Hosp. Reports, vol. iv.) The strength of this adventitious membrane varies.

The *diagnosis* of obliteration of the os is sometimes a matter of difficulty. Some authors deny its existence, and attribute such cases to obliquity of the organ.

On failure to reach the os, the probability of some form of obliquity would naturally suggest itself. Bearing in mind the different positions which the uterus might assume, the practitioner should explore the whole pelvic cavity; if by chance the os might be found abnormally situate, under the influence of uterine contraction, the head is forced into the hollow of the pelvis, forming a hard globular tumour. If there have been any considerable disorganization, the place where the os should be is recognised by an indurated cicatrix; or if there be simple agglutination of the os, there will be a dimple or depression below the surface of the surrounding parts, indicating the situation of the uterine orifice.

[On the subject of the proper time for interference, and the most suitable means to be adopted, the author proceeds as follows:]

Satisfied that obliteration of the os exists, our course will be determined very much by the character and degree of the morbid alterations. In cases of obstruction arising from the deposit of a thin, filamentous, cellular tissue, Naegele recommends that it should be broken down by a female catheter. In some cases the membrane is so firm as to require division with a cutting instrument.

When the obliteration is caused by firmly organized adventitious deposit, there can be no doubt that an incision should be made at the seat of the obliterated orifice. The only question is as to the time at which the operation is to be performed. The cases cited show distinctly that nothing is to be gained by delay, but that much is perilled by temporising treatment; and that the chances both to mother and child are much enhanced by an early resort to the incision. The operation is usually performed with a bistoury, guided by the finger.

[The next portion of the paper is occupied with the narration of seventeen cases of partial occlusion of the os uteri, the causes of which are stated to be, as in the former case, inflammation from mechanical injuries, and also organic disease. Ordinary rigidity of the os is not considered by the author, as ample directions for its treatment are to be found in the general text-books of midwifery. His object is to consider the treatment of such cases as do not yield to venesection, tartar emetic, or opium, and whether the rigidity be due to an indisposition in the structures to dilate, or to morbid changes, the result of inflammation or organic disease. With this object three courses are passed in review, namely, abandonment to nature, artificial dilatation, and incision. The two former are looked upon as useless or prejudicial. Of the latter he observes:]

Our only resource is a section of the rigid os: to determine the proper time for interference is more difficult than when complete obliteration exists. In the latter case, the knowledge that an opening must be made by nature or art, will induce us to resort to it early, and thus to avoid the risks attendant upon delay; but in obstinate rigidity, unaccompanied by distinct organic lesion, it may be more difficult to determine the proper time for action.

From the evidence of cases, it is seen that the operation, when resorted to in

season, is attended by the most favourable results. The incision, so far from leading to more extensive and dangerous lacerations under the continuance of pains, in none of these instances encroached on the peritoneal cavity; nor was there any considerable pain or loss of blood.

[The same principles of treatment, viz.: early resort to division of the opposing structures, is also recommended in partial obliteration of the vagina from cicatrices. Dr. Ingleby advises that the incision should be made during a pain.]

ART. 75.—*On Rupture of the Uterus.* By DR. TRASK.

(*Amer. Journ. of the Med. Sciences.*)

This important monograph commences with quotations, exhibiting the great diversity of opinion which obtains among writers of celebrity respecting the course to be pursued under the appalling accident of rupture of the womb. From these it appears that Blundell and Davis would not attempt delivery as long as there appeared to be any chance of recovery undelivered. Lee and Merriman would abandon the woman unconditionally when the rent has become diminished by contraction. Burns and Ramsbotham would be disposed, under these circumstances, to practise gastrotomy early, and by the "small incision." Blundell would wait until there should be no chance of recovery if left alone. Velpeau would try every other mode before proceeding to gastrotomy; and Churchill considers its propriety very questionable. Dewees, on the contrary, regards gastrotomy, immediately performed, as the only chance. It is, the author observes, of great importance that these discordant opinions should be reconciled, and the practice most calculated to be successful should be determined. And as this can only be done by ascertaining the collective experience of the profession, he endeavours to accomplish the end by the comparison of all the authentic cases on record. Of these, upwards of 300 are collected, and tabulated under various divisions, and with unusual attention to accuracy.

From the analysis of these cases, the author proceeds to establish the history of rupture of the uterus, commencing first with the

Causes of rupture.—These are predisposing and immediate.

1. Among the former, contraction of the pelvis is generally considered to be pre-eminent, especially when the rupture is at the cervix, and its influence is accounted for in three different manners. The first is, that the rupture is due to gangrene, the consequence of inflammation. A second idea is that entertained by Ramsbotham, that a thinning or softening of the uterine tissue may be induced by the pressure exercised between the promontory of the sacrum or pubes and the cranial bones. A third does not recognise any morbid condition of the uterine substance, but accounts for the influence of contracted pelvis by the fact that a portion of the cervix is pinched between the head and the pelvis, and so fixed as to receive the whole force of the uterine contractions.

The author considers that each of these explanations may be occasionally correct, but that neither is of general application.

2. Rupture of the fundus is, according to the author's cases, in a large proportion of instances, caused by a morbid thinning or softening of the uterine walls. Of 49 cases in which the condition of the uterus is mentioned, it was *thinned* in 14, *softened* in 14, both *thinned* and *softened* in 1. In 2 others it was *thick* in some places, *thin* in others. In 10 it is spoken of as *healthy*. These remarks bear out the conclusion of Dr. Murphy (*Dub. Med. Jour.* vol. vii.), "that in most cases rupture depends upon a diseased condition of the uterus, and is therefore unavoidable" under certain conditions.

3. Other predisposing causes are, a *large fetal head*, *oblique positions of the head*, and *transverse position of the trunk*; of each of which, examples occur in the table.

4. *Insurmountable rigidity of the cervix* acts similarly to a contracted pelvis, as do also unyielding vaginal bands and cicatrices.

5. *Obliquity of the womb*, as a predisposing cause, is illustrated in two cases.

6. The previous performance of the Cæsarean operation renders the uterus liable to give way at the locality of the cicatrix.

7. Dr. Channing furnishes two cases in which *polypus of the uterus* was the remote cause.

The immediate causes of rupture are, uterine action, natural or increased by ergot, external violence, as blows upon the abdomen, and forcible attempts to induce artificial delivery.

1. Rupture from spontaneous action of the uterine fibres is analogous to rupture of the heart and stomach. It is not, as is commonly thought, always connected with protracted labour, but may, as the author shows, occur at any time after the commencement of uterine contractions.

2. If normal uterine action is capable of inducing rupture, the increased action of the organ under the use of ergot is *a fortiori* to be expected to increase the danger of the accident. The author remarks that, for obvious reasons, but few such instances are recorded, but quotes the authority of Dr. Meigs, who has seen at least three cases in which rupture followed the imprudent exhibition of ergot. Dr. Bedford also possesses four specimens of ruptured uterus from the same cause.

3. Rupture may be produced by blows, and also from injuries inflicted during the unskilful performance of obstetrical operations, especially that of introducing the hand in turning. The cervix has been also torn off by the forceps, and that instrument has been in other cases thrust through the uterine parietes. The author adduces several cases, illustrative of the accident of rupture arising from inexperienced obstetrical interference.

4. La Motte and Levret attach great importance to violent movements of the fœtus as a cause of rupture. In four cases in the author's table, the accident followed immediately upon such movement, but he is indisposed to admit the sequence of cause and effect.

5. From three of the cases, it appears that rupture may follow mental emotion.

Pathology of rupture.—The author's abstract of cases embraces the most important circumstances connected with the pathology of this accident. Of these we have space only for the following table:

Situation of the rupture.—Of cases occurring during utero-gestation—

7 were of the fundus.
1 was of the posterior part.
2 of the anterior part.
2 of the right side.
1 of the left side.

3 involved the cervix and vagina.
1 from cervix to fundus.
1 of cervix, body, and of the bladder.
2 of posterior and inferior part.
1 lower segment torn off.

Of cases during parturition—

11 were of the fundus.
13 of the posterior part.
14 of the anterior part.
8 of the right side.
7 of the left side.
2 of the vagina.

15 from cervix to fundus.
2 involved the bladder.
47 at the cervix, involving the vagina.
2 of the body.
7 transverse.

Symptoms of rupture.—The symptoms of rupture of the uterus are usually well marked, and the common observer cannot but see that something serious has happened. When it occurs during parturition, it is generally during a pain of unusual severity. The patient is conscious that something has given way within her; she feels a tearing or rending sensation, and in some instances the sound attending the rupture has been heard by the bystanders. But, whether the patient be conscious of any peculiar sensation or not, almost immediately after the stomach rejects its contents, the countenance assumes an expression of anxiety, and on examination, the presenting part is found to have receded; the contents of the uterus are high up in the abdomen, perhaps the limbs of the fœtus can be distinguished immediately beneath the integuments, and there is slight hemorrhage from the vagina.

Very soon dark-colored matter is ejected from the stomach, the pulse becomes rapid and feeble, the skin cool, and covered with perspiration, and there is great sensitiveness of the abdomen. If no relief be afforded, the patient dies within a few hours of hemorrhage, or from the shock which the constitution has received, or lingers a few days to perish from inflammation; or perhaps, in some rare cases, life is continued, and the fœtus is discharged piecemeal. To the occurrence of

each and all of these symptoms there are numerous exceptions, and the practitioner should therefore be prepared to meet with cases of this accident in which they are not so distinctly marked.

Diagnosis.—The two circumstances which are diagnostic of the accident are, first, recession of the presenting part, which almost always happens when the rupture is at the fundus, or in the body; very often when it is at the cervix, and sometimes when it is confined to the vagina; and, secondly, the ability to distinguish the limbs of the fœtus beneath the parietes of the abdomen, where they were not felt before. It is important, however, to remember that, if the head is impacted it cannot retreat, and also that, in some persons, the walls both of the abdomen and uterus are so thin, that the limbs of the fœtus can be clearly made out by external examination, even when no rupture has taken place.

Prognosis.—The author considers that we are unable to ascertain the actual rate of mortality. According to Smellie and Lever, slight lacerations of the os are unattended with danger; while, on the other hand, several such in the series of cases accumulated by the author have proved fatal.

In forming our prognosis, much consideration is to be given to the extent of injury, the parts involved, the amount of hemorrhage, and the constitutional shock. If the peritoneum remain entire, it is evident that the patient escapes in a great measure the risk of peritonitis. When the muscular coat is involved, the patient is exposed to the risk of metritis. The author's cases do not teach us that lacerations of the cervix itself, extending into the body of the womb, or down into the vagina, enjoy any immunity over rupture in any other part of the organ.

The prognosis in any particular case must be a matter of great uncertainty, inasmuch as some have recovered from most extensive lacerations, and others have died from very slight lesion of the muscular coat alone. The amount of danger that may be incurred from inflammation can never be anticipated.

Since a morbid condition of the womb is in many cases a predisposing cause of rupture, it becomes an interesting question whether this condition can be predicated during life. It does not appear that this can be done. It is true that in some of the cases collected by the author, the patient had been the subject of dysmenorrhœa; another had repeatedly miscarried; others complained of severe pain in the belly; others of a tendency to vomit, &c.; but the information to be derived from such symptoms is obviously too vague to be relied upon as indicative either of *softening* or *thinning* of the uterus.

Treatment.—The author first inquires whether the practice of noninterference, recommended by the old writers, is correct, and decides satisfactorily, from his series of cases, that it is not. On the contrary, it is rendered evident that artificial delivery, as sanctioned by modern authority, is the proper course. Thus, of 154 cases delivered by artificial means, 97 died, and 57 survived; of 89 abandoned undelivered, 65 died, and 24 survived. Of 31 delivered by natural efforts, 20 died and 11 survived.

This gives a slight difference in favour of those artificially delivered, but is to be regarded as a mere approximation to the truth, for reasons afterwards stated.

But even if artificial delivery be not greatly superior to noninterference as regards ultimate recovery, it has considerably the advantage as regards immediate survival, for it appears from the author's tables that the average continuance of life after rupture is, for the delivered, 22 hours; while for the undelivered, it is only 9 hours.

The author considers the treatment of rupture during pregnancy and parturition together, noticing, first, cases in which the whole fœtus, or the head, with more or less of the body, has escaped into the abdomen; he also treats of the same division of cases under the complication of contracted pelvis, after which he lays down the following rules of guidance:

1. *When rupture occurs in a patient with a well-formed pelvis, the head being of a natural size, the treatment must depend upon the situation of the fœtus.* Should it have descended into the pelvic cavity, and be ascertained to be alive, delivery by the forceps should be attempted. If the child be known to be dead, the head may be lessened.

2. *Should the fœtus have escaped into the abdomen, the pelvis being ample, the course to be adopted will depend upon the condition of the laceration.* If the laceration

ration has engaged the vagina alone, or if, although the cervix is implicated, there is still room to extract the fœtus without forcible dilatation, version is to be preferred. Where the rent is confined to the uterus, and the edges have contracted, a different course is indicated. The only conditions in which version is allowable after rupture are, *ample pelvis, head of moderate dimensions, and the uterus uncontracted, or the rent confined to the vagina.*

3. *If the head be impacted from constriction of the outlet, perforation appears the proper mode of practice.*

4. In the case of escape of the fœtus, with contraction of the edges of the laceration, two courses have been proposed; one is, to leave the patient to Nature, the other is gastrotomy. The author has shown that non-interference holds out a worse chance than any other, both as regards the immediate and remote consequences; and he therefore fixes upon gastrotomy as the only justifiable proceeding.

5. When the brim of the pelvis is contracted by deformity or morbid growths, the author likewise advises gastrotomy in preference to violent attempts to deliver by the forceps, &c.

6. A question often arises as to how long a time after rupture it is proper to attempt artificial delivery. The longest period in the table was eight days. Although this case recovered, the author does not regard it as a course to be generally recommended. When patients have recovered with the fœtus in the abdomen, it has been either from the escape of the fragments after putrefaction, or after the formation of false membranes about it. Should the formation of false membranes have taken place by the organization of the lymph thrown out, a destruction of these membranes, by the violent removal of the foetus, might easily result in serious consequences; but if, on the other hand, putrefaction had taken place, and the patient laboured under fever in consequence, a careful attempt at removal by the hand, provided the rent freely admitted it, or by gastrotomy, would probably afford the best chance.

7. *Delivery should be effected as early as possible after the rupture has occurred.*

8. When the death of the mother has taken place, and the child is known to be alive, it should be extracted by gastrotomy.

Treatment after delivery.—It appears from the histories of the cases collected by the author, that the course from which the greatest success is to be expected is the following:—Immediately after delivery, an opiate should be given, and stimulus if required. The bowels should be evacuated before inflammation sets in. The patient should be put upon an active mercurial course; as soon as the bowels have been moved opiates should be administered so as to restrain their action for some days. Inflammation is to be kept within bounds by the abundant use of leeches, and evacuation of the bladder must be secured by the catheter.

ART. 76.—*On the Mode of Application of the Long Forceps.*

By Professor SIMPSON.

(*Edinburgh Monthly Journal*, Sept. 1848.)

When the head of the child becomes fixed in the brim of the pelvis, and the uterus fails in propelling it, one of two modes of instrumental delivery are usually resorted to, viz. perforation and craniotomy, or extraction by the long forceps.

Craniotomy is the preferable operation when the child is dead, and where the distortion is very great; but it has the disadvantage of being fatal to the child in all cases, and to the mother in one in five cases, as appears from Churchill's tables. The long forceps are stated by the author to afford the best chance of life to the child, but are not so often used as they should be, from misapprehensions regarding the difficulty and danger of their application. They differ from the short forceps, both in construction and application. The short forceps are always applied to the lateral surfaces of the head, whatever its position may be; the mode in which the long forceps ought to be applied is the subject of considerable difference of opinion.

If they are applied for inertia, hemorrhage, or other such complication, while the head is passing through the brim, and the brim and head preserve natural proportions, the instrument may perhaps be applied, like the short forceps, to the

sides of the head; but the common reason for the application of the long forceps is morbid contraction of the brim in its most general form, and from its most general cause, viz. in the antero-posterior diameter, from projection forward of the promontory of the sacrum. How are the long forceps to be used in this case? It is in the first place requisite to state, that under this complication the child's head is situated in the brim, with its long diameter lying in the transverse diameter of the brim, or with the forehead looking to the ilium, and the occiput to the other. In other words, the long diameter of the head is not as usual placed in the right diagonal diameter of the brim, but more in its transverse; for where the promontory of the sacrum forms a morbid projection, the transverse forms the longest diameter of the brim, and, consequently, the one in which the child's head comes to be placed by the uterine efforts. The face or forehead looking to the ilium, and the occiput to the other ilium, the lateral surfaces of the child's head come to be compressed between the protruding sacral promontory and the interior of the symphysis pubis. Now, in seizing the head in this case, some authors aver that,

1st. *The blades of the long forceps are placed, as in applying the short forceps, on the lateral or aural surfaces of the child's head, and consequently with one blade in front of the sacral promontory, and the other behind the symphysis pubis.* Burns, Dewees, &c., speak thus of applying the long forceps in the conjugate diameter of the brim; and Dr. Churchill has published a woodcut representing this as the actual method of their application in practice. But its application in this position is impossible in the very cases in which the long forceps are generally required, viz. where the conjugate diameter is contracted, for there is not room for the additional thickness of the blades of the instrument; if applied, they add to the thickness of the head in that one diameter and place in which it is already too thick and large; their pressure would greatly endanger the urethra and bladder in front, and the soft structures placed over the promontory of the sacrum behind; and they could not thus be placed in the axis of the brim in consequence of the pressure of the perineum upon the instrument below. Other authors aver that,

2d. *The blades of the long forceps should be placed over the occiput and forehead or face of the child, and consequently in the transverse diameter of the brim.* This is the view of their mode of application taken by Deleurye, Davis, &c., &c., and approaches much nearer the reality than the former opinion; but that it is not strictly true, is shown by the marking of the place of application of the blades of the instrument after the child is born, and by a more attentive consideration of the mechanism of such labours. One blade has been found to have been placed behind one ear, and the point of the other to have pressed upon the side of the forehead, temple, or region of the eye; but these would not be the places of the markings of the blades if they were applied in the transverse diameter, upon a head placed directly transverse. Dr. Ramsbotham has published a beautiful plate of the mode of application of the long forceps, and has given an excellent chapter on the subject in his work on midwifery. He correctly represents in the plate the anterior blade as placed upon the side of the forehead and eyebrow; but in order to give this view with the forceps placed in the transverse diameter of the brim, he has been obliged to represent the face as turned backwards; whilst in reality, in morbid contractions of the conjugate diameter of the brim, it is actually turned laterally; and he places the long diameter of the blades of the forceps so as to traverse the right oblique instead of the left oblique pelvic diameter.

3d. *The blades of the long forceps should, I believe, be placed obliquely upon the child's head—one, the posterior, over the side of the occiput, and the other, or anterior, over the side of the brow or temple, and consequently should be situated in the oblique diameter of the brim.* The markings on the child's head after birth always show this mode of application of the instrument: when properly applied upon the mother, and when their situation relative to the pelvis is examined, they are found to have assumed this position; and in experiments with the instrument (when the head of a dead child is fixed in the pelvis with a contracted brim), this is the position and relation which the instrument will be seen to assume with relation to the infantile head and maternal pelvis. Besides, in thus placing the instru-

ment, while we incur less danger of injuring the urethra and other important parts, we place the blades of the instrument in exactly those parts of the pelvic circle where there is least pressure, and consequently most room for them. It is apparently in consequence of misconception on this point that some authors have come to prefer the use of the perforator to that of the long forceps. Dr. Collins, for example, argues that, when the head is detained in the pelvic brim, the brim "measuring little more than three inches from the pubis to sacrum," there cannot possibly be space for the long forceps, even were the bones denuded, seeing that the blades of the smallest-sized forceps used in Britain, even when completely closed, measure from $3\frac{1}{2}$ inches to $3\frac{3}{4}$. "How," he adds, "is it possible with the forceps to drag a child through a pelvis where there is not space, except by force, to introduce, as is commonly said, a straw, or where the smallest flexible catheter cannot be passed in some instances into the bladder?" These and such opinions proceed on the erroneous idea that the long forceps are to be applied, within the pelvis, at the parts or in the diameter in which the pelvis is *most* contracted, and they suppose that the head, when fixed in the pelvic brim, fills completely the *whole* circle of the brim. The usual shape of the morbidly-contracted pelvic brim is cordate, or rather elliptico-cordate, but the child's head is not of this shape: it is ovoid, and consequently when applied to the cordate brim leaves unoccupied spaces. The most unoccupied spaces before and behind are at the extremities of the oblique diameters of the brim, where sufficient room is left for the passage of the blades of the forceps, and in these points they are passed when properly applied.

ART. 77.—*Remarks on the Forceps.* By Dr. ALEXANDER TYLER.

(*Obstetric Record*, August 1, 1848.)

We have all, no doubt, often asked ourselves the question, why an instrument so valuable, in the hands of judicious and experienced practitioners, should be extolled by some as the noblest of instruments, whilst others have attempted to limit its use so far as almost to discard it from general practice; and some few even have looked upon the introduction of the forceps into obstetric practice as a greater evil than those for the prevention of which such an instrument was invented.

Now to be able to arrive at anything like a true estimate of the real worth of this instrument, it will be necessary for us to trace the sources of error into which both the advocates and enemies of the forceps have fallen, and to discover, if possible the cause of all this discrepancy of opinion as to its real value. That their abuse in the hands of rash and inexperienced practitioners has tended principally to lower our estimate of them, I believe to be an admitted fact; we shall therefore, first, endeavour to point out some of the sources of their abuse, and what we conceive would be the best means of prevention in future.

The abuse of the forceps, in the first instance, often arose from an exaggerated opinion formed of their real capabilities. We read that Dr. Hugh Chamberlen, in 1670, asserted he could deliver a woman in a few minutes with the forceps, in whose case Mauriceau had given it as his opinion that the Cæsarean operation would be required; Chamberlen's attempting to deliver with the forceps, in a case of such extreme deformity, showed that the range of their applicability, in his mind, was much too extended. Nor was it up to a much later period that any general rules, as to the cases suited for their safe and successful application, were framed; and even at the present day, with all the knowledge we possess of the grades and varieties of deformed pelves, few obstetricians will deny the great difficulty that is occasionally experienced in deciding as to whether a possibility exists of delivering a living child, or that rather we should abandon all hope of saving the offspring and sacrifice one life, for the purpose of delivering the mother with greater safety.

Every obstetrician of experience has been placed over and over again in this difficulty, and notwithstanding the extent of his own experience, feels he would like to have the opinion of another more experienced than himself. This can easily be obtained in large cities, and by and by, when railways are generally established throughout the land, will be available also to country practitioners in general; but hitherto the young country practitioner has not enjoyed these advan-

tages; he has been too often placed in the dilemma of either calling in a rival, or acting on his own judgment; the latter is the course generally pursued, as unfortunately medical men in some country towns carry this spirit of rivalry so far, that they prefer operating upon their own responsibility, rather than run the risk of having their practice found fault with by another, who may afterwards unfairly criticise to the injury of their professional reputation. Now to enable the young practitioner to meet these difficulties at his outset in practice, let us give him opportunities of operating while under our guidance as a pupil. It has often struck me, that the instruction which our students get in practical midwifery, even in Dublin (acknowledged to be one of the best midwifery schools in the world), is in some respects deficient for the mass of midwifery pupils, who, without further preparation or experience, are to engage in the practice of midwifery afterwards. I include in this category all students who are satisfied with a six months' attendance upon practical midwifery. During that period, if industrious, no doubt they may lay up a useful stock of practical information, so far as diagnosing presentations, the unequivocal symptoms of labour, treatment of hemorrhage, and so forth; they will also have seen the various operations performed, instrumental and manual, and may have delivered the stuffed fœtus with the forceps, on the machine—a lesson I by no means disapprove of; on the contrary, I believe that a certain degree of dexterity may be acquired by practising the use of the forceps even on the machine: but is that lesson sufficient to guide the young practitioner in his first attempt at extracting a living child through a pelvis containing most delicate and important soft parts? I need only mention the urinary bladder in front, and the rectum behind, together with the numerous important nerves and blood-vessels, &c.

The operation upon the machine can be accomplished by due attention to the laws of mechanics, a body of a given size being handed to him to extract through a space of known dimensions; but how altered are the circumstances of the case, when he is called upon to deliver a delicate woman of a living child! here two lives are depending upon his skill and judgment. He may, no doubt, succeed in extracting the child, from the knowledge that he has acquired of the axes of the pelvis, and the previous accomplishment of delivery of the stuffed fœtus with the forceps upon the machine; but he must now take into consideration, first, that the compression exerted upon the child's head, if too long, &c., will destroy its life; and second, that the soft structures of the mother are endangered by every mal-directed movement of the instrument, especially should they have been at all in an unfavourable state for delivery, the former foiling the very object for which we have recourse to the forceps; and the second error, if committed (of injuring the soft parts of the mother), entailing too surely a life of suffering and misery upon the unfortunate victim, should she recover the first effects of the operation.

With a view of checking, and, in time, curing this crying evil, it has often struck me for some time back, as no doubt also others, who have considered the subject in its proper light, that our only effectual remedy for it would be, to afford advanced students (who purpose devoting themselves to midwifery practice) opportunities of using the forceps, and indeed performing the various other obstetric operations (under our strict guidance and inspection) which they will afterwards often be called upon to perform out of the reach of assistance, whilst in the discharge of their daily duty. I feel convinced, were such opportunities generally offered, that numbers would be found ready to avail themselves of the increased facilities thus afforded, of safely acquiring dexterity and confidence in the use of instruments, now denied to the majority, whilst resident in our midwifery institutions, and which they must afterwards acquire, to the detriment of science and of their patients, and perhaps at the expense of losing a hard-earned reputation. Surely, in this age of advancement, when education is making such strides to instruct the millions, we ought not to deny the midwifery pupil the means of perfecting himself in that particular branch, unless at such a sacrifice of time as is incompatible with his general interests, if purposing to settle in the country, or abroad.

The abuse of the forceps in the hands of unskilled and inexperienced practitioners, in my mind, ought to rank first amongst the causes tending to depreciate their real value, or even, I would venture to say, their abandonment, by a few

over-cautious practitioners. The second cause may fairly be assumed to be the great variations as to the length and size of the instruments recommended and used in different countries: for instance, let us contrast the modern French forceps with those in general use in this country; the former measure eighteen inches in length, whereas ours seldom exceed thirteen, and the other proportions are equally at variance. Now can it be imagined that both are equally applicable and safe? surely not; either those used by the French are too long and bulky, or else our forceps are inefficient, and therefore worse than useless.

I believe most experienced midwifery practitioners, at least in this country, have come to the unanimous decision, that as a general rule, the long forceps (by which term I would designate all forceps exceeding thirteen inches in length) are most unsafe as regards the soft structures of the mother, and in most instances where used, have proved equally dangerous in compromising the life of the child, so that in the majority of cases we might as well have performed craniotomy, with a certainty of preserving in perfect integrity the soft structures of the mother, as well as lessening the risk of a fatal termination; inasmuch as we substitute an operation of safety and of easy performance for one which must be looked upon, in all such cases, as highly dangerous in its results, even when performed by the most expert and judicious operator. Taking this view of the subject, I think it ought to be laid down as a law amongst obstetric practitioners, not to have recourse to the use of forceps exceeding thirteen inches in length; but rather to use the deadly perforator, for the sake of the mother, without reference to the life of the child, in those cases requiring a longer instrument. Until some definite decision has been come to in reference to the limited length of the forceps, it never can be considered as a safe instrument; for inasmuch as every additional inch adds to its leverage power, by so much is the danger increased of using it. In many cases of slight deformity at the brim, where the head is arrested, and where the advocates of the long forceps would recommend their introduction, I should much prefer the operation of turning, as recommended by Dr. Simpson, as affording nearly as good a chance of saving the child, without putting the mother to such risk as I maintain she always incurs by the introduction and use of forceps with such great leverage power, and the iron points of which are far out of our reach and guidance. Or if we can be certain that the contracted brim is wide enough to allow the passage of the child's head, when compressed under the influence of powerful uterine action, I think, in such a case, we are justified in administering the ergot of rye, the action of which upon the uterus, if the impediment exist only at the brim, will effect delivery safely and securely; and even if the cavity and outlet are also contracted, will at least drive down the head of the child within reach of such forceps as we are in any instance justified in using.

[The author, in conclusion, narrates cases, several of which exhibit the advantage of giving ergot previous to using the forceps. In one instance the head was quite out of reach until driven down by the expulsive action of this drug, and but for this the author would have had recourse to the perforator.]

ART. 78.—*Spontaneous Expulsion of a Uterine Tumour after Delivery.* By Dr. ELDRIDGE.—We have great pleasure in noticing the following remarkable case, in which a large uterine tumour, probably of the ordinary fibrous character, was enucleated and expelled without artificial interference. It is probable that, consequent on delivery, inflammation and sloughing of the uterine tissues between the tumour and the cavity of the uterus had taken place, and that the mass had been expelled by the uterine contractions, to which its own presence in such a state would give rise. It is particularly interesting and instructive, as affording another instance of nature's own process for the cure of this malady.

The mother, æt. 37, had borne her last child seventeen years previously. She had, since then, enjoyed very good health, and her pregnancy presented nothing peculiar, excepting an apparently very rapid and extraordinary increase of her size. The labour presented no remarkable or very serious peculiarity, except its protraction, and that force was required to bring out the head, the breech having presented. The child was dead. After complete delivery, the uterus continued so large as to excite a suspicion of the presence of twins. After about an hour an

examination was made, per vaginam, and the uterus found to contain a hard unyielding tumour, of the size of an adult's head, or even larger, its surface presenting the appearance of granulations, without any investing membrane, and internally its structure was fibrous and extremely hard, firmly imbedded in the muscular texture of the uterus, and attached to it over a large surface. At its margin it could be separated from these attachments by the fingers, but soon the finger reached adhesions so firm as to be incapable of dividing them. She was at this time full as large as a woman at the full time. For two weeks she had frequent febrile attacks. At the end of this time the tumour began to diminish slightly, and the discharges became very fetid and offensive; but her general health steadily improved. Thirty-eight days after her confinement the tumour was discharged without any pain. It was very fetid, and had evidently been detached for some time. The tumour weighed two pounds, and measured five inches by three, even after suffering so much from breaking down and decomposition.

Boston Med. and Surg. Journal, Feb. 2, 1848, and *Obstetric Record*, July.

ART. 79.—“*Sachets*” in *Prolapsus and Relaxed Vagina*.—Dr. Meigs frequently has recourse to the sachet or little bag recommended by Leuret, but too much neglected in the present day. These should be made of good linen, of the shape of the finger of a glove, and packed full of finely-ground, but not pulverized, Aleppo galls; to which may be added a few grains of sulphate of quinine and alum. The bag may be secured, and its removal assisted, by tape secured to its lower end. Before being inserted, it should be soaked in some weak port wine or claret, and then pressed dry in a napkin and dipped in sweet oil. It will give tone to the vaginal walls, as well as keeping up the womb. It may be allowed to remain six or eight hours daily for an indeterminate period. These sachets may be made of other ingredients, as cubebs, kino, oak bark, &c.

Females and their Diseases, p. 177.

ART. 80.—*Medicated Pessaries*.—The following are those chiefly used by Dr. Simpson:

Zinc pessaries. R Zinci oxidi, dr. j; ceræ albæ, dr. j; axungiæ, dr. vj. Misce et divide in pessos quator.

Lead pessaries. R Plumbi acet., dr. ss; ceræ albæ, dr. iss; axungiæ, dr. vj. Misce et divide in pessos quator.

Mercurial pessaries. R Unguent. hydrarg. fort., dr. ij; ceræ flavæ, dr. ij; axungiæ, oz. ss. Misce et divide in pessos quator.

Iodide of lead pessaries. R Plumbi iodidi, scr. j; ceræ flavæ, scr. vj; axungia, dr. v. Misce et divide in pessos quator.

Tannin pessaries. R Tanninæ, scr. ij; ceræ albæ, scr. v; axungiæ, dr. vj. Misce et divide in pessos quator.

Belladonna pessaries. R Extr. belladonnæ, scr. ij; ceræ flavæ, dr. iss; axungiæ, dr. vj. Misce et divide in pessos quator.

Monthly Journal, June 1848.

SECT. II.—DISEASES OF CHILDREN.

ART. 81.—*On the Pneumonia and Bronchitis of Infancy*.

By R. C. GOLDING, M.D.

(*British Obstetric Record*, No. 11.)

[After explaining the source of the peculiar liability of early life to pulmonary and bronchial affections, the author endeavours to systematize the variable phenomena attending them in the following manner:]

1. The bronchitis of children may be acute, attended with copious purulent secretion, dyspnœa, and inflammatory fever; or, be mere congestion of the lining of the air-tubes, with increase of their natural secretion, without fever or dyspnœa of any importance.

2. The degree of dyspnœa and fever present vary much; they are more intense

the greater the vigour of the general constitution; bronchitis in such cases is more liable to pass into lobular pneumonia than is that form of bronchitis, though acute, occurring in strumous habits. The bronchitis of measles and scarlatina is attended with intense fever and prone to pneumonic complication.

3. Bronchitis is apt to become chronic in strumous children; and where a predisposition to vesicular emphysema exists, frequent bronchitic attacks during childhood is a most fertile source of that lesion.

4. The pneumonia occurring as the sequela to, or as an aggravation of the bronchitis of infants, is usually of the lobular form; the inflamed portions present changes, different in the several portions so circumstanced (solid, from red or gray hepatization; soft, from the formation of pus, or from sphacelus). Sometimes the pneumonia is of the lobar kind, attended with the same morbid changes, and with phenomena, both general and physical, as in the adult; that following scarlatina and smallpox is usually of the lobar kind: in such cases pleurisy is not unfrequent, especially when the inflamed portion is near the surface of the lung.

5. Expectoration is usually profuse and purulent, though swallowed, and sometimes vomited with other substances existing in the stomach at the time of ejection.

6. The morbid appearances of the lungs and lining of the bronchial tubes have been described most beautifully by West, Rilliet, and Barthez: to the ordinary appearances of congestion and inflammation may be added, deposition of miliary tubercles in children predisposed to such deposition, and œdema of the subpleural areolar tissue, in cases where urgent dyspnoea has preceded dissolution.

7. The respirations are increased in frequency, often 40 or 45 per minute; the expiration is usually prolonged; the râles vary in character and degree of audibility according to the size of the tubes over which the examiner is listening, and to the quantity and consistence of their secretion: the following are the chief points of practical importance connected with the râles:

a. Although commixed, the varieties of the mucous and crepitating râles may with care always be discriminated.

b. Mucous râles indicate free effusion into, and thick consistence of the secretion in the bronchial tubes; consequently, more of a congested than of an inflammatory condition of the parts eliciting them: if inflammation has been previously acute, it may be known to be resolving when such râles are audible.

8. Crepitating râles, large and small, indicate scanty effusion into the bronchial tubes, together with more or less complication of the pulmonary parenchyma: the secretion in these instances is thin. These sounds mark either the commencement of inflammation, or such a congested condition of the parts yielding them, that antiphlogistic measures must be resorted to for their alleviation.

9. Mucous râles have always seemed to me to be most audible during inspiration; whilst crepitating are most so either at the end of inspiration, or during the prolonged expiration usually present under these circumstances: this difference may be mainly due to the greater loudness of the mucous râles during inspiration than during expiration.

10. Nothing more will be said in this place on general or physical phenomena present during the bronchitis and pneumonia of infants, further than to state that a large portion of lung must be condensed by inflammation to elicit a readily appreciable dullness on percussion; inasmuch as the lungs of infants are so well permeated by air (except where a mechanical obstruction exists to its ingress) that a small portion of condensed lung is with difficulty defined. Blueness of the lips with general pallor of the surface, indicate a degree of inflammation or extreme congestion, which, if not relieved, must terminate fatally. The prognosis of these affections in children is always uncertain; indeed no rules can be laid down with sufficient accuracy to determine the point. There is so much reparative power in children, that the most formidable symptoms may be present, and yet recovery ensue; on the other hand, the most trivial cases of pulmonary inflammation may prove fatal, not so much *per se* as by a sympathetic effect on the nervous centres, inducing convulsions, coma, and the like. So long as the cutaneous transpiration is kept up, and other organs remain uninfluenced, no apprehension need be entertained. But if the respirations become frequent, the surface pale and dry, the lips livid, and vomiting, coma, or convulsions supervene, the case is nearly hopeless;

though even then, the efforts of the constitution, aided by diaphoretics and active purging, may be effectual in warding off the fatal result. Of treatment it is unnecessary to say much here; my only object is to remark on the efficacy of ipecacuanha, which I believe to be as efficacious as tartar emetic is in the allied affections of adults; acting in a similar manner, and may be given with the same tolerance of action as obtains with that heroic remedy. Children under 12 months will bear half a drachm of the wine every two hours; if the case is urgent, the same quantity every hour; above twelve months, one drachm may be given.

The first and second dose may produce vomiting; this, however, is of no moment; as the distressing effect of, and copious diaphoresis, the immediate consequence of that state, will be attended with most beneficial results.

The medicine (as is the case with tartar emetic) is generally borne with impunity, producing no physiological effects, till, by its therapeutic action on the inflammation, that process has subsided; this is a good index of the state of the inflammation, and a manifestation of the efficacy of the remedy for its removal.

Active purging, sinapisms to the thorax, and the warm bath, must be used as adjuncts; when convalescence is established, the heat of the surface must be preserved by flannel being constantly worn next it.

ART. 82.—*Practical Remarks on Croup.* By Dr. ZERONI.

(*Henle and Pseuffer's Zeitsch. and various journals.*)

The most ordinary form of croup is *congestive croup*. This form generally occurs at a time when there is a tendency in the weather to induce catarrhal affections, manifesting itself suddenly, generally in the night, and without any precursory symptoms; with the exception, perhaps, occasionally of a slight cold in the head. In this form of the disease, children wake from a quiet sleep with a sharply barking kind of interrupted cough, raise themselves in bed, and begin to cry in apparent distress, a piping hissing inspiration being occasionally heard, as well as in their coughing. The countenance is often flushed and turgid, but the respiration is not hurried, and but little febrile excitement is perceived in the pulse. When the attack subsides, the child again falls asleep, and rests quietly till the morning; occasionally, however, the attack recurs, respiration becomes more noisy, rattling and hissing, and the child either vomits, or simply makes an effort to do so. This form of the disease requires little more than careful nursing for its cure; the child should be kept in bed, be made to drink copiously of warm drinks, partake freely of some oily emulsion, and have a sponge steeped in hot water laid on the neck. If, however, a hissing hurried respiration causes apprehension of a recurrence of the attack, the most effectual means is to give an emetic, continuing its use until the child has vomited several times. (This form of the disease appears to be induced by a hereditary and acquired predisposition.) To young children during the first year, Dr. Zeroni gives $\frac{1}{4}$ gr. cupr. sulph. every quarter of an hour.

The second form is *inflammatory laryngeal croup*. This is far more serious in its nature, and never occurs without premonitory symptoms, or where it may not be referred to the action of some injurious influences. It may have been induced by the preoccurrence of the milder form, or owing to exposure to bad weather immediately after recovery from a former attack. The characteristic symptoms of this second form of croup are as follows: Broken, rough, whistling cough; the inspiration is quick, and has a sharp sound; the child is restless, moves the hands, bringing them frequently to the head and neck. The face is hot, red, or purple, the neck swollen, whilst the pulsations of the heart and arteries are rapid. When the attack subsides, the child becomes strikingly animated, enters into his customary sports, and evinces no desire to lie down or to go to sleep. Respiration after the first attack, and even after several attacks, is quiet and natural; it becomes, however, gradually more hurried and noisy, and a faint rattling is heard, which assumes by degrees a metallic sound. Hoarseness increases, and the voice becomes low and whistling. The attacks come on more frequently, and the child is more restless and irritable during the periods of intermission, whilst the pulse grows fainter and fainter. This uneasiness, however, ceases. The child dozes continually, lies on its back, with

its head thrown back and pressed into the pillow; the throat protrudes, the countenance is drawn, pale, and swollen, somewhat of a bluish or yellowish tinge. The eyes are sunk, and half shut; whatever is handed to the child is impatiently pushed aside, and nothing can induce it to drink. The respiration is loud and rattling, all the muscles of the neck act convulsively, the pulse is frequent and small. The child dies either in this state of sopor, with the symptoms of paralysis, or in the midst of convulsions induced by another choking attack of cough.

This form of disease requires prompt and energetic treatment. No time should be lost in abstracting blood, and no apparent amelioration of the symptoms should hinder the frequent application of leeches, in proportion to the age, until the child begins to evince an appearance of exhaustion from loss of blood. A second important means is cupr. sulph.; from three to four grains of which should at first be given in order to induce vomiting, and the dose should then be reduced to one eighth or one fourth of a grain, every half-hour, or hour, until the disease assumes a favourable turn. Dr. Zeroni also speaks of the invaluable aid he has derived in some cases of *this* form of croup, but not in any other, from a combination of musk and opium.

Inflammatory tracheal croup.—This is likewise attended by premonitory symptoms, and induced by pre-existing or extremely injurious influences. It generally occurs in the months of February and March. Children catch cold, have a dry, somewhat rough cough, which being often disregarded, they are frequently suffered to expose themselves to cold and damp; the hoarseness and cough gradually increase, but this state often continues for upwards of a week before the occurrence of a fit of choking, and before medical advice is sought. After the first attack the child is often cheerful, and even at times extremely merry. The voice is quite gone, the respiration somewhat hurried, and more or less rattling; the cough not frequent, short, rough, unattended by a whistling inspiration, no expectoration, or if any, merely a white frothy mucus interspersed with a few streaks of blood; the pulse quick, the skin warm, and the urine natural. If the little patients are able to speak, they complain of pain in the neck and the middle of the chest. By degrees the choking fits become more frequent, the respiration more hurried and difficult, and the tone accompanying it rougher and more croaking. Extreme hilarity and the most remarkable movements alternate with excessive lassitude, during which the child sinks down exhausted, falls asleep, exhibiting the most marked disinclination to be spoken to or touched. The cough becomes a noiseless suppressed expulsion of air, the attacks are accompanied by a violent noisy rattling sound, the muscles of the neck become powerfully convulsed, and the head is thrown far back. The pulse is small and quick, the skin drawn, the muscles extremely relaxed, the face swelled and puffy, the lips blue. The child dies in a state of sopor, as if from asphyxia. This form is more fatal to children under two years of age than to those who are older. It is met with in children of six, or even occasionally nine years of age.

The application of leeches is of the greatest importance, since on this depends the result of the whole treatment. If a sufficient number of leeches be early applied to the neck and chest, we may regard the termination of the disease as probably favorable. Emetics do not appear to have much influence here, although they occasionally relieve the respiration.

The fourth form, which is designated by Dr. Zeroni as *aphthous croup*, is the most dangerous, but fortunately also the most uncommon; it has only been observed in autumn, during a continuance of stormy, cold, and rainy weather. It never occurs unattended by premonitory symptoms. The child is somewhat excited, occasionally flushed, and appearing from time to time to have transient febrile symptoms. As, however, it is cheerful, sleeps well, and has a good appetite, these symptoms are too often neglected, and the child is suffered to go out in the damp or cold, until at last it complains of pain on swallowing. On examining the throat, the tonsils are found to be somewhat swollen, reddish, and covered here and there by a yellowish-white puriform investment. The submaxillary glands are swollen. The child continues, however, cheerful, and there is scarcely a trace of fever. The aphthous streaks or points now extend

gradually more and more, approaching each other. On removing part of this investment from the tonsils, we find that the subjacent membrane is of a brownish-red colour, but not dry. Deglutition becomes more painful, but still there is no fever, and it is not till the fourth or fifth day that the symptoms assume a more serious character. Hoarseness comes on, a low singular kind of cough is heard, and occasional oppressive sensations are experienced. The disease soon runs its fatal course, and the child, after several days of indescribable suffering, dies in a state of sopor, under circumstances similar to those of which we have already spoken. A prophylactic mode of treatment seems the only one that is of avail in this form of croup; and, considering the nature of the disease, too much stress cannot be laid on those means of prevention under the control of parents—such as prompt attention to any symptoms of indisposition manifested by young children, and care not to expose them to the open air until all morbid symptoms are entirely removed; since Dr. Zeroni mentions that where once this aphthous affection of the tonsils was established, he never yet succeeded in saving the child; leeches, tartar emetic, and calomel being all without avail. The only means which he considers likely to produce a favorable result, are the external application of caustics, as suggested by Aretæus. Dr. Zeroni considers that this aphthous affection of the tonsils may occur in adults, although in their case he has never observed a fatal result. The disease may manifest itself alone, or conjointly with febrile diseases; but he has not found that in this latter case the local affection rendered any change necessary in the mode of treatment for the main disease.

The fifth form of croup, observed by Dr. Zeroni, is *suppurative croup*. This is invariably found to have been preceded by a fully developed catarrh, and usually occurs at the close of winter and the beginning of spring. It begins with more or less fever, restlessness, insomnia; the cough that was previously loose, becomes dry, rough, and barking, without being attended by a whistling inspiration, or a metallic sound. The cough comes on by fits, during which the child tries to sit up, bends the head forward, and puts its hands to its ears, tongue, or mouth. The attacks are not attended by choking, but cause distress by the continuance of the short broken cough. The child is hoarse from the beginning of the disease, but loses his voice entirely after a time; cases however, occur, in which the cough is at first loose, and the voice clear, but where there is much fever at the beginning of the disease, and even strongly marked delirium occurring at night. Fever gradually increases, the child sleeps almost continually, actual suffocative fits at length come on, the respiration becomes hurried, gasping, and rattling. The child is pale, and appears swollen; and finally, torpor supervenes, with an extremely quick pulse, and profuse perspiration, and the child not unfrequently dies in convulsions.

If the disease is neglected, it generally proves fatal to infants and very young children from the ninth to the eleventh day. In adults it may be prolonged to the fourteenth or eighteenth day; in the latter case the attacks are much more violent. The suffocative attacks which generally supervene on the seventh day are most distressing: the child starts up with violence, tears, scratches, and bites everything it can lay hold of, often tearing its hair and biting its hands; it appears to be in most fearful struggle, and in the height of its agony, the hoarseness suddenly disappears, and it cries in a loud voice for help; the short cough becomes looser, and mucus is expectorated, the fever abates, and finally, the dreadful sufferings of the little patient terminate in symptoms of paralysis.

This form, like the others, demands a prompt and early application of leeches, which must be repeated with a frequency proportionate to the age of the child and the violence of the fever; it is almost the only thing to which recourse can be had, but as soon as the cough becomes somewhat less distressing, and the fever abates, a favourable termination of the disease may be hoped for; occasionally, however, much service is derived from cupr. sulph., given in sufficient doses to produce vomiting; this must be done when the cough and fever have abated, and the suffocative attacks have begun. The above forms of croup are only met with in children, and seldom after their sixth year. Dr. Zeroni scarcely attaches any faith to the opinion entertained by many, of the fatal nature of croup in adults. He says that he certainly has observed all the symptoms of croup most strikingly

manifested in women, but these were found to depend on uterine derangement, and yielded to a mode of treatment adopted with reference to diseases of the latter kind; and he considers that where adults have sunk under croupous symptoms, they must be ascribed rather to œdema glottidis than to genuine croup.

ART. 83.—*Diseases of the Larynx in Infancy; their Diagnosis and Treatment.*
By DR. BLACHE.

Diseases of the larynx in general are not, it is true, very common in infancy, but the various maladies which that organ can be affected with during the first stage of life present a degree of gravity very different from that which they assume in the adult. On the other hand, croup, or diphtheritic laryngitis, is specially observed in children; its severity is excessive, and it is marked by many symptoms belonging to laryngeal disease. It is, therefore, of the utmost importance to physicians to be acquainted with their diagnostic signs, in order to avoid discreditable errors of prognosis, and in order to be enabled to have recourse to timely measures, and not to be taken unawares by serious and unforeseen circumstances.

Croup is a specific inflammation of the mucous membrane of the larynx characterized by the secretion of false membranes on its surface, and marked by three distinct periods. The first presents the symptoms of angina, the predominant signs being sore throat, accompanied by pain in the anterior part of the neck, and swelling of the maxillary ganglions; at the same time the tonsils are red and swollen, the soft palate, tonsils, and pharynx, studded with small white patches, and the general symptoms are limited to loss of appetite and some febrile excitement. As soon as the larynx becomes engaged in the inflammation, the second period begins; the cough, loud and hoarse, resembles the barking of a dog, or crowing; the voice soon is totally extinguished, and its tone is harsh like the cough. Breathing is accompanied by a sound which recalls to the mind that produced by a saw working its way through a soft stone. At the same time dyspnoea appears, and the hand is carried towards the throat by convulsive action. Remissions often separate the attacks of suffocation, and asphyxia begins. Expectoration is sometimes absent, but occasionally causes the expulsion of false membranes. The third period is expressive of slow or rapid asphyxia, complete aphonia, laryngeal sonorous respiration, convulsive actions of the respiratory muscles, frequency and irregularity of the pulse, throwing back of the head, and extreme paleness, and somnolency. Death supervenes either in a paroxysm of suffocation, or from a sort of calm asphyxia, in a slow and progressive form.

Pseudo-croup, or laryngismus stridulus, deserves, on account of its frequency, to be well known, and to be distinguished from real croup. It is, like the latter, an acute disease, but differs from it by its sudden appearance, and the total absence of premonitory symptoms. It generally shows itself during the night. The child wakes in a state of suffocation, and makes vain efforts to breathe; the eyes are bloodshot, the face red and swollen, and the cough, loud and stridulous, is occasionally of a barking character, or resembles more closely croupal cough, being harsh, stifled, and of a metallic sonorousness. Respiration is sibilous; the inspiration crowing, and expiration usually silent. After the paroxysm, which is never so short as in spasma glottidis, the child falls asleep again, or, if the seizure has taken place during the day, returns to his occupations without preserving any of that sadness which persists throughout in true croup. In serious cases, the paroxysms are as frequent as in croup, but the remissions are complete. In mild cases the symptoms all subside after an alarming attack, the voice is hardly altered, and the pulse is natural. On examination of the throat no false membranes can be detected, nor are the cervical glands enlarged. A simple catarrhal bronchitis follows, and the child gradually recovers. When the case terminates fatally—an uncommon circumstance—cyanosis becomes general, and death occurs after several attacks of suffocation.

Spasma glottidis is an intermittent malady, characterized by very short fits of suffocation, separated by intervals of perfect health. The attack is ushered in by no warning. The respiration is suddenly arrested, as if the glottis was com-

pletely closed; during several seconds the child is threatened with suffocation; the mouth is widely open, the head drawn back, the eyes fixed, the face purple; after ten or twenty seconds, during which respiration has been altogether arrested, the patient quietly draws his breath, the attack being concluded by a convulsive, sonorous, crowing inspiration. In general, five or six consecutive paroxysms are observed; and during the attacks most of the functions experience some transitory disturbance; the pulse becomes quiet and small; the pulsations of the heart irregular; the veins of the head distended, and involuntary evacuations take place. No cough, no laryngeal pain, no change of the voice, no redness or deposits are observed upon the mucous linings of the throat; but a peculiar symptom is noticed, viz., contraction of the extremities. At first the paroxysms are few and far between, but they gradually become more and more frequent, and at last occur every day, and even every hour. The frequent repetition of the symptoms at last occasions a state of general debility and suffering, somnolency makes its appearance, is soon followed by diarrhœa, and the patient dies from the progress of hectic fever, if he be not carried off in an attack of dyspnœa.

Simple laryngitis, presenting for its anatomical characters either redness of the mucous membrane, or ulcerations chiefly upon the inferior vocal chords, is symptomatically expressed by aphonia, or hoarseness of the voice, cough, slight acceleration of breathing, little or no fever, and no symptoms of asphyxia. The dyspnœa does not occur in paroxysms; in its severe forms the pulse is frequent, the face purple, the neck tumefied; at a later period the voice is completely extinct, suffocation is more and more marked, and death takes place from convulsions, or from propagation of inflammation to the bronchial tubes or to the pulmonary tissue.

Œdematous laryngitis, whether consequent (as in the adult) upon chronic inflammation of the larynx, or upon a general morbid condition of the subject, as in the dropsy which follows scarlatina, is marked by a difficulty of breathing chiefly appreciable during inspiration; the voice is unchanged, and death is brought on by asphyxia. If the œdema be considerable, it can be detected by the finger introduced into the larynx.

Hence, glancing generally at diseases of the larynx in infants, we may form three groups: in the first the nervous system is primarily affected (spasmodic glottitis); in the second the nervous and inflammatory elements are combined in tolerably equal proportions, as in laryngismus stridulus; in the third it is the degree of inflammatory action which constitutes the chief peril. A fourth group might be formed of those maladies in which the nervous element is altogether absent, as in simple laryngitis. These classifications naturally lead us to establish the treatment upon a rational basis. Spasmodic glottitis, an exclusively convulsive disorder, will require for its treatment antispasmodics, amongst which we will chiefly mention oxide and cyanide of zinc, assafoetida, musk, cherry-laurel-water, &c. In pseudo-croup, or laryngismus stridulus, in which the nervous and inflammatory elements combine, we might be induced to suppose that antiphlogistic remedies would be of considerable service. Experience does not, however, confirm this view; at the Hôpital des Enfants bloodletting is not in these cases found to be beneficial, and we greatly prefer the administration of ipecacuanha. If the disease be complicated with diphtheritic angina, all hesitation should be at an end, and the cauterization of the throat, with a solution of nitrate of silver (one third or one fourth to three or two parts of water) should be combined with the exhibition of emetics. In these maladies, as well as in œdematous laryngitis, where suffocation is imminent, tracheotomy should be performed. As to simple laryngitis, its danger mainly depends upon the propagation of inflammation to the bronchi and lungs. Emetics and contra-stimulant treatment should be put in requisition.

ART. 54.—*Treatment of the Diarrhœa of Infancy.* By Dr. WEST.

(*Medical Gazette*, July 14, 1848.)

In his treatment of the intestinal affections of infancy, Dr. West shows great powers of discrimination and therapeutical application. In the simple form he

relies greatly on a well-regulated diet; but if the evacuations are abundant, but fæcal and unattended with tenesmus, he gives to a child a year old a mixture containing

R Magnes. sulphatis, ʒj;
Tinct. rhæi, ʒij;
Aquæ carui, ʒviij.

Dose—a teaspoonful every six hours.

In the diarrhœa of teething, he lances the gums where gingival tumefaction is very decided, but otherwise thinks the operation a needless infliction. In this form, instead of the saline mixture, he employs small doses of ipecacuanha combined with an alkali, from which he has derived great benefit. Three or four drops of liq. potasse, and the same of vin. ipecac., are given in a little mucilage every four hours; and at the same time a powder of one grain of Dover's powder and one of hyd. c. creta is given at night. The warm bath is also an useful adjuvant.

Where astringents are required, he gives the preference to the extract of log-wood in combination with tincture of catechu, which is a valuable tonic as well as astringent. If the motions are slimy, he continues the night powder. If there is much acidity, a little soda is added to the astringent mixture.

In inflammatory diarrhœa Dr. West seldom considers depletory measures to be called for, but if leeches are used, he advises great caution to prevent unnecessary loss of blood. In these cases, if there is no great irritability of stomach, he thinks highly of small doses of castor-oil and laudanum, as below.

R Ol. ricini, ʒj;
Pulv. acac., ʒj;
Syrup. simp., ʒj;
Tinct. opii, ʒiv;
Aquæ aurant. flor., ʒviij.

A teaspoonful every four hours.

Tenesmus is treated by laudanum and mucilage enema. Speaking of the still more severe forms of diarrhœa, the author's remarks are as follows:

"There are some cases in which, after the disease has passed its acute stage, it still retains much of its dysenteric character; the bowels not merely acting with undue frequency, but the evacuations containing mucus, pus, or blood, and their expulsion being attended with very considerable tenesmus. The strength in such chronic cases is very greatly reduced, and emaciation goes on to a greater degree than in almost any other affection, with the exception of phthisis and mesenteric disease; while the bowels are excited to almost immediate action by even the simplest food. The treatment of these cases is attended with considerable difficulty; recovery, when it does take place (and it is consolatory to know that it often does, even from a condition apparently desperate), is brought about very slowly, and each remedy employed seems speedily to become ineffectual. Throughout their course two objects are to be borne in mind: one being to check the diarrhœa; the other to support the child's strength during the time required for nature to effect the cicatrization of the ulcerated mucous membrane, and to restore it to a state of health. The utility of mercurial preparations has appeared to me to be almost exclusively confined to the early stage of dysentery, and to cease when the disease has passed into the chronic form. On the other hand, astringents may now be employed with the most marked benefit, and, when one fails, another may be substituted for it. In cases where the stomach has been very irritable, so that almost everything taken has been speedily rejected, I have sometimes employed the gallic acid in combination with laudanum, and have seen much benefit follow from its use. At other times I have given the acetate of lead likewise with opium—a combination which, notwithstanding that decomposition takes place, yet retains its efficacy when given in the form of mixture. The sulphate of iron combined with opium is another highly useful remedy in these cases, and appears to have this advantage over the sulphate of zinc, which has likewise been used in similar cases,—that it does not excite the same irritability of the stomach.

Our remedies are not to be confined to those administered by the mouth; for much may be done towards relieving the symptoms and curing the disease by

suitable enemata. In some cases of unmanageable diarrhœa, M. Trousseau employs an enema of nitrate of silver in the proportion of a grain to an ounce of distilled water, with very good effect. I have never employed it, but have sometimes used the gallic acid as an enema, though not sufficiently often to be assured of its efficacy."

[The author concludes with directions as to diet, in which he advises weak animal broths in preference to farinaceous articles.]

ART. 85.—*On the Vaginal Discharges of Children.*

By R. C. GOLDING, M. D.

(*British Obstetric Record*, No. 15.)

The object of this communication is to consider the discharges from the genitals of female children, and to connect them with certain derangements of frequent occurrence with which they are associated.

On true gonorrhœa and noma of these parts it is not intended to dilate: suffice it, they are only of occasional occurrence, are most acute in their character, are characterised by well-marked symptoms, and are for the most part readily recognisable from those discharges—usually mucous—which mark certain chronic derangements of the general health.

The latter, though denominated vaginal, really proceed from the mucous membrane of the external generative organs, rarely coming from the vagina beyond the hymen.

These discharges depending on increased secretion from the vulva, consist of mucus, rarely of pus, unless the exciting agency be long kept up, or be of great intensity.

The strumous diathesis is the most usual predisponent of these affections: in such habits the mucous membranes of the natural outlets, where they join the common integument (as also the thinner portions of the latter), are peculiarly prone to inflammation, or to such frequent congestion, that the normal secretion of these parts becomes increased, and of such acrid quality, that the discharges consequent on such conditions perpetuate by their acrimony the lesion immediately inducing themselves.

Such is a characteristic of the mucous membranes and certain portions of the skin in strumous individuals, and is exemplified in the following diseases so often seen in such habits: ophthalmia tarsi, chronic inflammation of the Schneiderian membrane of the nose, aphthæ, and simple stomatitis of the buccal mucous membrane, chronic cynanche tonsillaris, eczema impetiginodes of the softer parts of the skin, strumous inflammation of the external auditory meatus, and of certain acrid discharges from the vulva.

Among entozoa, (also most prevalent in scrofulous children,) ascarides are frequent: the irritation of the *ascaris vermicularis* in the rectum, with uncleanness, is commonly the immediate cause of these discharges. The scrofulous diathesis is the most fertile predisposing cause, whilst the irritation of entozoa in the lower bowels, with uncleanness of the parts themselves, are the most usual exciting causes of these diseases. The condition of the parts themselves may either be inflammation, when pus will be added to the mucus in the discharge, or, as is more usual, mere congestion: the secretion in both cases is abundant, acrid, and, if not removed, keeps up the irritation of the parts thus implicated.

The discharge proceeds from the mucous follicles with which these parts are abundantly provided (especially the vestibule and inner part of the nymphæ), as well as from the Cowperian glands. The symptoms attending these discharges vary with the intensity of the exciting cause, and to complications: thus ardor urinæ may be present from sympathetic irritation of the urinary mucous membrane, or painful parturition, from the passage of the urine over the external parts. Intestinal entozoa usually coexisting, there are many symptoms present due to their presence—irritation of the anus, restlessness, depraved (often ravenous) appetite, convulsions, and fetid ejections; phosphatic urinary deposits are often present; fever may exist, with aphthæ of the mouth, and

strumous eruptions: these, when existing, complicate the case, and render its issue doubtful.

In gonorrhœa, the local symptoms are more urgent than in the instances just detailed: there is redness and swelling of the parts, with purulent discharge from the vagina beyond the hymen; whereas, in ordinary cases, the local symptoms are usually less distressing than are the constitutional, being in a direct ratio to the urgency of the latter.

When, however, gonorrhœa becomes chronic, the gluey discharge, though capable of generating itself when applied to other mucous surfaces, is so similar in physical characters to the ordinary redundant discharges of the same parts produced by other causes, that no difference is appreciable. The prognosis will be according to the length of time the discharge has lasted, and to the state of the system attending it. When of lengthened duration, the discharge may be so profuse that great debility may be induced; this, superadded to the strumous diathesis usually present, as well as to other concomitant affections, may lead to serious apprehension, tubercular deposition in the lungs and lymphatic glands being apt to supervene.

The treatment must consist of frequent ablutions with tepid water, so that the discharge may be removed as soon as eliminated, and thus cease to be a source of irritation. Mild astringent lotions may also be used; but, in most instances, tepid ablution is all the topical treatment necessary, inasmuch as the complaint either has a constitutional origin, or is kept up by constitutional causes, no means purely local will suffice.

Of hygienic and regimenal measures,—disregard of which is usually the cause of the production of this and other diseases in scrofulous subjects—warm clothing and bathing, sea bathing, when admissible, a plain, nourishing diet at regular intervals, moderate exercise, and plenty of sleep, are indispensable, both as preventive and curative means.

Of medicines, active purging with jalap, scammony, and calomel, with the infusion of quassia and dilute sulphuric acid administered as a tonic and vermifuge, are all which in most cases are needed, if used in conjunction with the hygienic and regimenal means mentioned above.

APPENDIX.

Synopsis of the Methods of Treating Asiatic Cholera, recommended by recent Writers.

1. *Dr. Graves*: No faith in mercury. A scruple of acetate of lead with one grain of opium, divided into twelve pills; one to be given every half hour till the discharges diminish.

Clinical Lectures, 2d Ed. vol. i, p. 419.

2. *Dr. Wood*, Philadelphia: Calomel and opium, in small, repeated doses; acetate of lead, kino; cold water to drink; external warmth; diffusible stimulants.

Treatise on the Practice of Medicine, vol. i.

3. *Dr. Parkes*: First stage, blood-letting sometimes; acetate of lead, two to three grains, with a quarter of grain of opium, every half hour for two or three hours; external warmth useless; large doses of calomel injurious: mustard poultices to epigastrium; cold drinks; diffusible stimuli. In *collapse*, bloodletting sometimes relieves. No treatment to be relied upon.

Researches on Algide Cholera.

4. *Dr. Milroy*: External warmth; saline emetics, as salt, one table-spoonful in a tumbler of water; turpentine stupe; salt or turpentine enemata; calomel when the vomiting has abated.

Pamphlet on Quarantine, 1847.

5. *Mr. Bell*: Bloodletting, if seen in three or four hours from invasion; quina disulph. grs. xij; ferri sulphat. grs. ix; aquæ Oiss. Dose not stated.

Medical Gazette, Jan. 1848.

6. *Dr. Black*: Small bleeding in stout subjects; calomel and croton oil repeated three times; then calomel with capsicum; enemata of warm water.

Prov. Med. and Surg. Journal, Jan. 26, 1848.

7. *Dr. King*: Cold water *ad libitum*; large doses of calomel.

8. *Dr. Turnbull*: Capsicum embrocations.

Lancet, Jan. 29, 1848.

9. *Dr. Arthur Wilson*: Warm mustard emetic; venesection where possible; neutral non-aperient alkaline salts; inhalation of oxygen.

Lancet, Nov. 4, 1848.

10. *Dr. Ayres*: Two grains of calomel and two drops of laudanum every ten minutes, as long as collapse lasts.

Lancet, Oct. 7, 1848.

11. *Dr. Henriques*: Quinine in large doses, in all stages; stimulant embrocations; injections of decoction of bark.

12. *Mr. Allen*: Large doses of calomel at the commencement; bleeding occasionally; mustard poultices to the spine and abdomen; enemata of hot salt and water.

Lancet, Oct. 21, 1848.

13. *Dr. McCann*: Mustard emetic; brandy and laudanum, and calomel and opium; stimulant embrocations.

Lancet, Oct. 21.

14. *Mr. Hird*: Mustard emetics, followed by acetate of lead and opium; stimulating apothems.

Lancet, Oct. 21.

15. *Mr. Jenkins*: Strychnia, gr. j; conserve of roses sufficient to form eighteen pills; one every quarter of an hour.

16. *Mr. Beaman*: Salt emetics; external warmth; then carbonate of soda in effervescence with lemon juice; external warmth.

Lancet, Sept. 2.

17. *Mr. Hancorn*: Emetics; diffusible stimulants, as ammonia, capsicum; hyd. c. creta; tinct. ferri sesquichloridi in concentrated form after every motion; sulphuric acid embrocations; hot-air bath.

Lancet, Sept. 9, 1848.

18. *Dr. Radcliffe Hall*: Five grains of tartar emetic in half a pint of camphor mixture; an ounce every two hours, till tolerance is effected.

19. *Mr. Brady*: In premonitory stage, ol. ricin. ℥ij. chloroform. ℥vj. tinct. opii, ℥xx; aquæ menthæ, ℥iss; f. haust. If reaction ensues, external warmth, sinapisms, and following draught and pill, repeated according to circumstances.

R Chloroformi, ℥viiij,
Sp. vin. gall., ℥ij,
Aquæ, ℥ij. f. Haust.

R Fellis bovini, gr. iv,
Hyd. chlor., gr. iij. f. Pil.

Chloroform embrocations to the spine.

Medical Times, Oct. 14.

20. *Dr. Shearman*: Bloodletting, followed by transfusion of blood; respiration of oxygen and atmospheric air; tartar-emetic treatment.

Medical Gazette, Oct. 14.

21. *Dr. Paterson*: Rathkeale; Five grains of calomel, with thirty drops of laudanum, every four hours; then an enema, consisting of sulphate of copper, sulphate of zinc, and alum, a scruple of each in two ounces of cold water; a wine-

glassful thrown up every few minutes till retained; after retention for half an hour, a large warm-water injection.

Dublin Medical Press, Sept. 20.

22. *Dr. Cowan*: Thinks well of bleeding in robust persons; stimulating emetics; calomel and opium; effervescing salines *ad libitum*; external warmth.

Prov. Med. and Surg. Journal, Nov. 1, 1848.

23. *Sir James Murray*: A wineglassful of his fluid of camphor every ten minutes, with a few drops of laudanum, inflating the lungs with electrified air; galvanic discharges through the respiratory and spinal nerves.

Lancet, Nov. 4, 1848.

24. *Mr. Marsden*: Calomel and ginger; with powders of common salt, $\mathfrak{z}\text{ij}$, carbonate of soda, $\mathfrak{H}\text{j}$, oxymuriate of potassa, gr. $\text{vi}\mathfrak{j}$, every quarter of an hour till reaction ensues; hot salt baths; warm saline emetics.

Lancet, Nov. 4, 1848.

25. *Dr. Willemin* and *M. Moreau*: Cannabine, the active principle of Indian hemp. The preparation a tincture of the strength of one grain to ten drops of alcohol; dose, ten to fifteen drops.

Lancet, Nov. 4, 1848.

26. *Dr. Hill*: Place the patient in a warm bed; give internal stimulants; friction with warm flannels; external heat; chloroform inhalations repeated at intervals.

Lancet, Nov. 4, 1848.

REPORTS
ON THE
PROGRESS OF THE MEDICAL SCIENCES.

July—December, 1848.

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON THE PROGRESS OF PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

BY THE EDITOR.

PART I.—GENERAL PATHOLOGY.

As faithful chroniclers of the progress of Medical Science, it is our duty not only to notify the advance of each and of all its departments, but also to remark upon any arrest in the stream of improvement when such is observable. We feel, therefore, bound to state that the semestrial period upon which we have now to report has been more than commonly unprolific in the department of practical medicine, so much so, indeed, that it has not been without difficulty that we have been able to select from the numerous sources at our command sufficient valuable matter to make up our ordinary number of pages. This deficiency is to be accounted for partly by the fact that the attention of the profession has been lately directed into other channels by the attraction offered in the subjects of ether and chloroform inhalation; but it is mainly due to the falling off observable in the foreign journals, the greater portion of which have been chiefly occupied by surgical communications arising out of the events by which the Continent has recently been, and is at this moment, disturbed.

—Among the newly published works which have reached us for notice in the present Report, we would make particular mention of a 'Treatise on the Practice of Medicine,' 2 vols. 8vo, by Professor Wood, of Philadelphia, as a production of no ordinary merit. It may be safely stated to be, for comprehensiveness and careful digest of matter, second only to the herculean labours of Dr. Copland, and has the advantage, not always perceptible in similar works, of being brought up strictly to the knowledge of the day. It must not, however, be looked upon solely as a compilation, for although, as must of necessity be the case, it is a digest of the opinions of the most reputable authorities, it is also enriched by the record of the actual experience of a physician whose opportunities of observation have extended over a period of thirty years, and who enjoys the reputation of being one of the most skilful and scientific practitioners of our sister country.

—We have also, through the politeness of the publisher, an opportunity of directing the attention of our readers to a second edition of Dr. Graves's *Clinical Medicine*, issued under the superintendence of Dr. Moore Neligan.* The reputation which these lectures have already attained is such that a further tribute of praise is almost unnecessary, but we should not be doing justice did we not state that, by the judicious alterations in the arrangement of the old text, and the introduction of several lectures not included in the past edition, the present volumes have been much enhanced in value. Among the latter, as of direct interest at the present moment, we would particularly allude to the author's lecture on cholera. The lectures on fever, which constituted so valuable a portion of the original volume, have also been much altered in arrangement, and extended by a history of the late epidemic. In fine, every subject treated of has the advantage of being perfected by the experience of the author subsequent to the publication of the first edition.

* *Clinical Lectures on the Practice of Medicine*, 2d Ed 2 vols. 8vo.

§ I.—Zymotic Diseases.

1. *Typhus and Typhoid Fever, Diagnosis of.*—The readers of the 'Half-yearly Abstract have, at various times, been made acquainted with the discussions at home and abroad upon the identity of typhus and typhoid fever. In addition to the opinions mentioned in former Volumes, we shall here adduce those of two of the latest writers on the subject, Dr. Wood and Dr. Wilshire.

Dr. Wood, whose opportunities of witnessing the two forms of fever have been such as are afforded only in America, where they both rage with nearly equal intensity, expresses himself as follows on the means of distinguishing them:

"Typhus fever less frequently commences insensibly than enteric (typhoid), and is upon the average of shorter duration. Instead of diarrhœa, or the susceptibility to purgatives, which attend the latter disease, there is usually constipation; and the fecal discharges are darker and more offensive. Hemorrhage from the bowels, which is not infrequent in the advanced stages of enteric fever, seldom occurs in typhus. In this complaint, epistaxis at the commencement is less frequent, there is more stupor, and a darker colour of the face, more turbidness of the conjunctiva, and greater debility. The eruption in typhus also differs from that of enteric fever. It generally commences earlier, is not elevated, is of a darker hue, does not so readily disappear under pressure, is much more abundant, and, instead of being confined to the abdomen and chest, is diffused over almost the whole body. In typhus, the abdomen is often flat, and perfectly free from tympanitis; which is never the case in enteric fever.

"The anatomical characters of the two fevers are very different. The peculiar disease of the glands of Peyer, and of the mesenteric glands, so constantly present in enteric fever, is never found in typhus, or so seldom, as to lead to the suspicion of an intermixture of diseases when it does occur. The spleen is less frequently enlarged and softened in typhus.

"Enteric fever almost never attacks the old, who are frequent victims of typhus. The former disease is endemic in various countries, arises here and there without obvious cause, and, if ever contagious, is very feebly so; while typhus seldom occurs in isolated cases, is always contagious, and often epidemic."

Nevertheless, the author admits there are cases of a mingled character, in which the elements of the two fevers may be supposed to coexist.*

—The observations of Dr. Wilshire, which occur in the course of his valuable lectures on the diseases of infancy, are recapitulated briefly in the following tabular arrangement:

Typhoid Fever, Adynamic Fever, Asthenic Fever, Low Fever, &c. of France and Great Britain, &c.

True Typhus, Contagious Typhus, True Maculated Fever of Great Britain, &c. &c.

NOT INFECTIOUS.

Cutaneous eruption often wanting; does not appear so early; more of the nature of petechiæ; does not disappear under pressure; no true exanthem.

Cerebral symptoms not appearing early; not so frequent.

Course prolonged, fifteen to thirty days; relapses common.

Not common before fifteen years of age, nor after fifty.

Attacks those predisposed to a febrile affection by exposure, vicissitudes, or is sporadic.

May occur under milder grades of the causes of typhus, or entirely without them; is sporadic.

Derangement of alimentary canal constant; important alterations connected with the intestinal follicles found; spleen large; intestinal perforation frequent.

EMINENTLY INFECTIOUS.

Cutaneous eruption a true exanthem; different from petechiæ, which may accompany it; former of a reddish-pink colour, disappear under pressure, soon to return on removal of it; sometimes dark, like measles, and not removable by pressure.

Early delirium, stupor, or typhomania.

Period of crisis about fourteenth day; relapses unfrequent.

Children often attacked when the disease is epidemic.

Generally presents itself as an epidemic, and may attack any one coming within its sphere.

Caused by the same—by famine as a predisposing cause; epidemic.

Post-mortem results often negative, and when lesions are present, they bear no comparison with the severity and rapidity of production of those of typhoid fever.†

* Treatise on Practice of Medicine, vol. i. p. 346.

† Lectures on the Diseases of Children.—Medical Times, May 20, 1848.

2. *Typhus Fever, Exanthematous Nature of.*—Contrary to the opinions expressed by the writer last mentioned, Dr. Williman has endeavoured to prove that typhoid fever is a true exanthem, and as such should be placed in the same category with other eruptive fevers. He bases his opinion upon their similarity in the fact of incubation, in the presence of a distinct eruption, in its prevalence consentaneously with other eruptive diseases, and, like them, in the subjects of it becoming exempt from a second attack. The analogy is further exemplified in a comparison of their respective pathological lesions.*

3. *Influence of Warm Baths in Typhoid Fever.*—In former Volumes we have given evidence of the great advantages to be derived in the treatment of fever from the external use of cold water, the results of which have been a more speedy restoration of the functions of the skin, and a proportionately rapid amelioration of the general symptoms of the disease. The same object, viz. the restoration of the cutaneous functions, is aimed at by the employment of warm baths; the utility of which is much insisted upon in a recent memoir by Dr. Hervey.†

It would be a needless occupation of space to give this author's observations *in extenso*, as the subject is treated with the discursive verbiage characteristic of many of his countrymen's writing; but it may be stated briefly that, under the use of tepid or warm baths, repeated daily or oftener, according to circumstances, he has noticed that the pulse improves in volume and softness, at the same time that its frequency diminishes, that the cerebral excitement is allayed, the tongue becomes moister, and, finally the skin becomes more supple, and perspirable.

4. *Typhus Fever, Convulsions in.*—Mr. Aitkin relates five cases of fever occurring within a period of twenty-one days, all of which proved fatal by convulsions. The author hesitates in fixing upon an explanation of so unusual an occurrence, but is inclined to associate it with the presence of morbid matter in the blood.‡

5. *Congestive Fever.*—This fatal form of fever, happily unknown in our country, is the subject of an essay by Dr. Lavender.§ Congestive fever, or "pernicious" fever, as it is called by Dr. Wood, is a form of disease in which the vital powers are depressed by the miasmatic poison to a degree in the great majority of cases incompatible with successful reaction. In its access and antecedents, Dr. Lavender observes that it is not to be distinguished from ordinary intermittent; but when once set in, there is a greater amount of vital prostration and præcordial anxiety. His general description of the symptoms, which is for the most part identical with that given us by Dr. Wood, (*Op. cit.*), is as follows: There is great thirst, with a tormenting sense of internal heat; the surface is cold, and bedewed with perspiration; the countenance is expressive of alarm; the pulse small, or almost imperceptible; there is vomiting and diarrhœa; and, in fact, the disease in many respects closely resembles algide cholera. Death takes place either by coma or convulsions. The fatal moment is sometimes delayed by the free use of stimulants, and at other times partial reaction takes place, and the skin becomes warm: but soon another paroxysm ensues, and the patient is again collapsed. A third paroxysm, according to Dr. Wood, is invariably fatal.

In order to arrest so formidable a disease, the promptest treatment is required. The various remedies are spoken of in succession by Dr. Lavender. Bleeding requires great caution, and should, he observes, be always combined with the use of stimulants; but, on the whole, he condemns loss of blood, whether general or topical; in which opinion he is energetically supported by Dr. Wood. The author further alludes to a condition which is very likely to betray the inexperienced practitioner into bleeding. This is when the congestive attack having yielded to quinine, the surface becomes warm, the pulse full; there is at the same time a feeling of restlessness and apprehension, with headache. If the attendant is induced to take blood under these circumstances, the author considers that fatal collapse will be induced to a certainty, either immediately or a few hours after.

* Charleston Medical Journal, July, 1848. † Archives Générales, April, 1848.

‡ Monthly Journal, June, 1848.

§ Amer. Journ. of Med. Science, July, 1848.

The great remedy is quinine in large doses. The author states that from 5 to 20 grains should be given every hour, until its characteristic effects are produced, or amendment declares itself. Dr. Wood gives 2 grs. calomel, 2 grs. quinine, and 2 grs. opium every hour, alternating with acetate of lead, kino, and opium, and combined with external warmth. When an interruption or remission is thus obtained, his practice is to get down from 30 to 60 grains of quinine before the period of the next paroxysm. If the stomach is too irritable to bear it, he gives it per anum in double the quantity. (Op. cit. p. 295.)

The nature of this fatal fever is a matter of doubt, even amongst those who have the most frequent opportunities of witnessing it. Dr. Wood shows good reason for believing that the miasmatic poison in some manner destroys the balance of innervation, and that to this loss of previous power the congestion and other symptoms stand in the relation of consequences. (Op. cit.) The same view is substantially maintained by Dr. Bartlett.*

6. *Paludal Cachexia*.—In connexion with marsh fevers, we may briefly allude to a communication by M. Duclos on the peculiar state of system to which the paludal poison gives rise, and which he calls paludal cachexy. This condition, he states, declares itself in two ways—coming on gradually and insidiously, or as the result of repeated attacks of intermittent. In either case its effects are much the same, and consist in the gradual decadence of the functions, flaccidity of the muscles, pallor of the skin, and debility, to which, as the impression becomes more profound, are added, anasarca, and effusions into the serous cavities.

Of these symptoms, the pallor and debility are generally the first in the series. The skin and mucous membranes put on the appearance of confirmed chlorosis, the appetite diminishes, and, finally, the dropsical symptoms appear. Contemporaneously with these, certain changes take place in the liver and spleen. Hypertrophy of the spleen is almost a constant phenomenon; the same state of the liver is not so frequent. In seeking an explanation of these different phenomena, M. Duclos states his belief that the starting-point of the disease is an alteration in the blood, consisting in a loss of globules, with positive increase in the proportion of water. In what manner paludal emanations operate in inducing these changes he does not attempt to decide. The treatment consists in removal of the patient from the marshy district, with the exhibition of quinine and chalybeates.†

7. *Antagonism of Intermittent and Phthisis*.—An elaborate memoir has been published by M. Renzi, in elucidation of the question of the mutual exclusion of the above diseases, the reality of which is maintained by many. The author, who has been at some pains to gain information from physicians residing in marshy localities, determines that there is no foundation for the opinion.‡

8. *Cholera*.—In a former page (p. 180) we have given a few of the numerous methods of treating this disease which have recently appeared. From them we can draw but one conclusion—that the disease is not one whit better understood now than in 1832; and that our treatment of it will be as grossly empirical as at that period. Government has decided, apparently to its own satisfaction, that the disease is not contagious, but with rare consistency enforces quarantine as strictly as heretofore. Should the disease again be rife among us, which there is too much reason to fear will be the case, we trust, for the credit of our profession, that it will be studied in a more philosophical manner than has yet been done, and that men will abstain from rushing into print with their one or two cases *cured* (?) by this thing and the other thing, but rather wait till the accumulation of their facts shall give them justifiable data for forming an opinion.

—In Dr. Graves's Clinical Lectures (2d edition), the distinguished author has included an elaborate and faithful history of the rise and progress of this pestilence during its last outbreak; in the course of which he gives the strongest evidence of its contagious nature.

With respect to the treatment, the author's experience may be summed up in

* Fevers of the United States, p. 532.

† Encyclograph. des Sciences Médicales, Avril, 1848.

‡ Gaz. Méd. 31, 1848.

a few words. He, at first, tried the calomel plan; but finding it utterly fail, he was induced to make trial of the acetate of lead, from which he derived the best results. His plan is to give one grain of the acetate with the twelfth of a grain of opium every half hour, till the discharge from the stomach and rectum began to diminish.*

—Among the host of medicines employed in the treatment of cholera, there is none, presuming the evidence to be trustworthy, which has appeared more flattering than chloroform given internally and by inhalation. Of the former mode of exhibition, cases are recorded by Mr. Brady† and Mr. Stedman.‡ In the former instance the patient was in an advanced stage of collapse, with excessive spasm, when the narrator gave a draught consisting of 20 drops of chloroform, and the same of turpentine in brandy, with the effect of relieving the thirst, and tranquillising the irritability of the stomach and bowels; a second dose was followed by decided symptoms of reaction, which ended in recovery. As soon as the stomach was quieted, a pill, consisting of five grains of calomel and oxgall, was given.

Mr. Stedman's case was equally severe, and equally successful under the same treatment. (See Abstract, p. 25.)

—The evidence in favour of the inhalation of chloroform is of the most flattering kind. Dr. Hill§ states that he has employed it in the Peckham Lunatic Asylum, in ten cases, with the most complete success; in one who was fast sinking it was used with the abatement of every bad symptom. Time will speedily show whether these results are confirmed by other observers; if so, Dr. Simpson, as the discoverer, will be entitled to a still higher meed of praise than has yet been accorded to him.

—An important fact has been elicited from the examination of choleraic blood by Dr. Garrod, viz. the large amount of urea which it contains, larger than in any case of Bright's disease which he has examined. This disclosure might have been anticipated as a consequence of the suppression of urine, but, to the best of our belief, it had not been previously demonstrated.

9. "*Ochlesis*."—Dr. George Gregory has recently made a communication, the object of which is to give a brief sketch of the evils which result from the accumulation of a vast number of sick persons under one roof. The author designates the general condition of disease produced under these circumstances by the term "*ochlesis*," derived from *ὄχλος*, a crowd. The normal type of the disorder is erysipelas of the face; but there are a vast number of allied affections which appear at different times with it, either separately or in combination. These are, erysipelas of the extremities, especially affecting wounds or sores; tracks of erythematous redness, following the course of the chief absorbent trunks, and terminating in abscesses; cellular inflammation of the lower limbs, or phlegmasia dolens; cellular inflammation of the neck, leading to abscess, "cynanche, otitis, glossitis; inflammation of the joints, terminating in purulent effusion; spontaneous gangrene of the genitals and of the extremities; gangrene supervening upon wounds or sores; spontaneous gangrene of some portion of the trunk of the body, especially in new-born children; gangrene of the umbilicus. Instances of pure fever, of a low type, from the same source, are not uncommon. Diarrhœa sometimes is the result, from the mucous membrane of the bowels becoming affected; and in the wards of lying-in hospitals the "*ochletic*" miasm expends all its virulence on the peritoneum. The author has seen an asthenic form of laryngitis produced by the same cause, and believes that the pneumonia which springs up in hospitals has likewise its source in the contagious ochletic miasm. This miasm too, he thinks, produces the excessive depression which attends the worst cases of sea scurvy, and he has seen it occasion, in the Smallpox Hospital, a state resembling, in all respects, scurvy itself. All the disorders originating in the ochletic miasm are characterised by a low condition of the *vis vitæ*, and intractability. The experience of the Smallpox Hospital during many epidemic visitations, especially in the years 1842, 1844, 1847, and 1848, has convinced the author of the fact, that all the

* Op. cit. p. 419.

† Medical Times, Aug. 12.

‡ Ib. Aug. 23.

§ Reported in Times of Oct. 30; in Lancet, Nov. 4.

diseases which he has enumerated may arise from the same miasm. Contagious peritonitis is perhaps the only form of the ochletic malady that he has not seen at that hospital during the last twenty-five years; but he regards it as quite certain that this is "part and parcel" of the same disease. The chief agent in the production of ochlesis is, certainly, the crowding together of the sick in one spot; but matters are made much worse by unfavorable locality, by dampness of the surrounding soil, imperfect drainage, or choked sewers, by deficient ventilation, by the character of the cases congregated, by neglect of personal cleanliness, by the employment of unpurified bedding, and by inefficient purification of the wards. Since, however, the ochletic miasm is evolved only at certain times, a peculiar, but unknown, condition of the atmosphere must concur towards the actual result. The ochletic miasm appears to attach itself strongly to the walls and floor of the apartment,—hence the use of covering the floor with a mixture of quick-lime and water, of lime-whiting the walls, of fumigating with nitric acid or chlorine, &c. The great means of checking the development of ochlesis, however, is to restrict the admission of patients, and to leave the infected ward unoccupied for a certain time.

10. *Hydrophobia*.—We embrace the present opportunity of laying before our readers the more recent contributions upon this obscure subject. In the first place, we shall notice certain experiments on the action of saliva by Dr. Wright of Birmingham, the bearing of which upon the etiology of this dreadful malady will at once be evident. We quote from a review of the German edition of Dr. Wright's work on the Saliva, in Forbes's 'British and Foreign Medical Review,' Jan. 1847; the first experiment is thus described:

"Four drachms of slightly alkaline saliva, sp. gr. 1.010, were ejected into the right external jugular of an old mongrel dog. Immediately after the fluid had passed, the animal uttered a loud yell, and struggled violently; the heart palpitated with vehemence, and respiration became very hurried and irregular. When six minutes had elapsed, and the severe effects had subsided, other four drachms of saliva were injected. The heart's action again became so quickened that I was unable to number its beats; the pupil was contracted; the abdominal muscles underwent a long spasm, and there was slight convulsion of the whole frame. At the expiration of ten minutes, the injection was repeated; it had the effect of increasing, but not remarkably, the action of the heart and lungs; the spasm of the abdominal muscles again returned, and a quantity of bile and frothy mucus was ejected by vomiting. When thirteen minutes and a half had elapsed, an abundance of turbid urine and fæces mixed with blood were passed; severe tenesmus succeeded, accompanied also by slight priapism. At the expiration of twenty-five minutes, when the system was comparatively calm, the pupil a little dilated, but sensible to light, and the heart beating seventy-two strokes per minute, I injected the remaining four drachms of saliva into the vein. The symptoms which attended the first injection instantly recurred, but with increased violence, and continued, with trifling remissions, for nearly four minutes, after which time their severity subsided. At the end of forty minutes, there was slight convulsion of the whole frame; an offensive slimy dejection was passed, to all appearance involuntarily; and shortly afterwards, about half a pint of bloody urine escaped in a similar manner. When three hours had elapsed, the animal seemed to be tolerably calm and comfortable; he ate a little meat, and lapped milk and water; he was then left for the night.

"It was observed on the following morning that he had made a great quantity of water, and that he had been purged and vomited several times. He now looked drowsy and stupid; his eye was dull, watery, and injected; he was disinclined for sport and exercise; he ate little, but drank abundantly; respiration natural; pulse 86.

"In three or four days the animal recovered his usual hearty and lively habits, and little notice was taken of him until the morning of the fifteenth day succeeding the experiment, when he was observed to look drowsy and dejected; his eyes were peculiarly downcast and inflamed; he refused to stir when called, and when approached, he uttered a growl expressive of anxiety and anger; his nose was dry and warm; paws cold; respiration irregular and quick; pulse 94. He lapped water or milk, but refused solid food. He continued in this state throughout the

day, passing one very offensive, dark, and slimy stool, and voiding, at several efforts, a great quantity of turbid bilious urine.

"On the following morning, the symptoms of the previous day were much aggravated; the dog growled and snapped at everything, living and lifeless, that approached him. My assistant in alarm ran away, and the other attendants being terrified at the dog's madness, deserted me also, and I was consequently left to manage him alone. By unobservedly seizing him at the back of the neck with one hand, and grasping him tightly, I was enabled to raise his lips with the other, when I observed that his mouth was filled with foam, and that his gums and cheeks were much swollen and inflamed; his nose was very dry and hot; paws cold and tender; respiration interrupted, with frequent sighing; pulse 106. So long as I held him in my grasp, he seemed quite docile and contented, but the moment I loosed my hold, he ran furiously at me, and but for a strong chain which secured him to the wall, I have no doubt I should have suffered from his bites. In a few hours, the froth began to distil from his mouth; he was tortured with thirst, and lapped water eagerly and without dread; indeed he plunged his mouth and face into the cold liquid, as if to relieve the heat and inflammation which troubled him; with the same intention he licked the cold wall and floor, but he would not touch any warm body, nor would he lap tepid water. He was remarkably irritable and restless, and when not snapping at objects that approached him, was constantly turning about, or chewing the sand and straw that were near. He was seen in the afternoon of this day by Mr. Bowker, surgeon, and by several other scientific friends, all of whom were decidedly of opinion that he was the subject of madness. In the evening his restlessness somewhat abated, and he lay moaning in a husky voice, occasionally altering the position of his head as if anxious to sleep. Thirst and salivation were diminished; eye dull and glassy, pulse 64, nose dry, extremities cold. He continued in this state, with increasing weakness and somnolency, until about five o'clock on the following morning, when, after a few struggles and signs of suffocation, he died.

"*Sectio cadaveris, six hours after death.*—The limbs were remarkably rigid, but the blood was everywhere uncoagulated, and presented scarcely any distinction between arterial and venous. No ptyalin could be found in it. The right cavities of the heart were gorged with blood, the left auricle was also full, and the left ventricle empty. The lungs were moderately crepitous, and unusually vascular; the air-cells and bronchi contained an abundance of mucus. The lining membrane of the trachea was vascular, and the redness extended to the membrane of the mouth. The gullet was also unnaturally florid, but the stomach and intestines contained nothing unusual. The stomach contained a quantity of straw, sand, and coal. The viscera were natural. The brain exhibited venous congestion upon its surface, and a little bloody serum at its base; but in other respects it was healthy.

The second case is of the same character:

"Six drachms of neutral saliva, sp. gr. 1.008, were introduced, at three separate injections, into the right common carotid of a mongrel dog. Each injection was followed by an extraordinary increase in the heart's action; hurried irregular respiration, and general convulsion. The symptoms closely resembled those detailed in a similar experiment, especially the inability of the animal to walk in a straight direction, and his consequent movement in a circle; the inclination was always towards the vessel which had received the injection. The stage of excitement lasted for five hours, during which time the animal passed an abundance of urine, vomited, and was purged several times. At the end of six hours, slight coma supervened; respiration was deep and stertorous; heart's action slow and laboured; sensibility diminished.

"On the following day there was considerable reaction, and the animal manifested strong signs of irritability and excitement. On the evening of this day I was called from home, and was unavoidably absent for a week. On my return I learnt that, on the second day succeeding the experiment, the dog became calm and docile, ate and drank very well, and appeared not to suffer pain or inconvenience of any kind. In this state he continued until the morning of the eighth day, when, on being visited with his breakfast, he flew at the servant, who narrowly escaped him. The door of the place in which he was kept was divided

horizontally in two, so that by shutting the bottom half, he could be conveniently watched over it. He was described to me as frothing considerably at the mouth, and appearing very fierce in the eyes, which were deeply reddened. He wandered about incessantly, chewing straw or sand, or lapping a little water; but he refused all kinds of solid food. He was shortly left to himself, when he began to gnaw the bottom of the door, which he finally demolished to an extent sufficient for his escape. On my return home in the evening of this day, I discovered him in the middle of a field contiguous to the house, surrounded by half a dozen men, who, with sticks, forks, and spades, were variously endeavouring to get him back into the stable. It was sufficiently ludicrous to see such an amount of human strength and ingenuity successfully combated by a single brute; but the men were in thorough trepidation, from the manifest signs of madness the dog exhibited. He snapped furiously at everything that approached him, and would occasionally pursue one of his opponents, until, tired by this effort, he was compelled to stop for breath. When I saw him he was staring wildly, and a quantity of frothy saliva was distilling from his mouth; the anterior part of his body was covered with this foam. I put a strong glove upon my right hand, and whilst the dog was engaged in snapping at a stick held before him, I caught him by the back of the neck. He struggled violently at first, and seemed to be choking, but finding resistance useless, he became perfectly quiet and composed. From an experience of the treachery of the animal in a previous experiment, I did not venture upon losing my grasp until having examined the state of the eyes and mouth, both of which I found to be unusually vascular, and the pulsations of the heart were 140 per minute, when I had a collar with a strong chain placed round the dog's neck, after which he was reconducted to his stable.

"He was visited again in an hour, but there was no observable decrease of irritability or restlessness; he snapped at everything that came in his way, and was incessantly changing his position. He lapped a little water, but the only solid matter he would chew were fragments of sand and coal. On the following morning he was much in the same state, but less inclined to bite; his mouth was still very frothy, and his eye deeply reddened; respiration rather stertorous; pulse 98. The irritability and restlessness increased towards evening; he would allow nothing to approach him without snapping at it; he was constantly engaged in licking the cold wall, or chewing straw, sand, or coal, or dragging himself upon his belly over the rough ground. On the morning of the tenth day he was somewhat improved; he ate a little meat, and did not snap unless suddenly roused; the salivation was less, and the eye appeared to be brighter; there was no stertor, and the pulse was 84.

"From this time the signs of madness diminished, and the dog seemed to be improving in health until a fortnight had elapsed, when there occurred a most offensive discharge of the nose and ears; it was greenish-yellow in colour, excessively fetid, acrid, and corrosive, for it excoriated the parts over which it trickled, and finally caused the entire of the nose and one ear to slough away. In a few days the dog became quite blind and deaf, though he did not diminish in strength, and he ate very heartily of meat, which was plentifully supplied him. He did not appear to suffer any pain, and was seemingly very quiet and contented. He continued in this state for more than three weeks longer, at the end of which time I was compelled to leave home. I learnt, however, that ulcers subsequently appeared in different parts of his body, and were succeeded by gangrene of the extremities, of which he died. The body was in a state of putrefaction before death. This animal was several times seen by my friends, Drs. Hutchison and Taylor, and Messrs. Massey and Thompson, surgeons, of Nottingham."

To determine whether the mere animal matter of the saliva had any share in producing the above phenomena, Dr. Wright performed the following experiments:

"I injected a drachm of isinglass, dissolved in two ounces of water, into the carotid artery; a little temporary excitement was the consequence, but the animal suffered no further inconvenience.

"I injected a drachm of pure mucus, diffused through an ounce and a half of water, into the jugular vein; the heart was a little quickened, and respiration was correspondently hurried; but the effects completely subsided in twenty minutes.

"I injected the entire white of an egg, diffused through two ounces of water, into the left common carotid of a dog. It produced considerable cerebral excitement, which was succeeded by drowsiness and feebleness of the limbs that continued for several hours; but the symptoms were very mild, and their duration inconsiderable."

The bearing of these experiments on the momentous question of the etiology of hydrophobia will occur to every reader, and we think the author uses a due discretion in speaking doubtfully on the subject.

"Concerning the production of canine madness by the injection of saliva into the blood, it is not now my intention to speak. It will, however, be sufficiently evident from the experiments already cited, that saliva is capable of exerting a very marked influence upon the brain and nervous system. The spasm, convulsion, and coma which were consequent upon the introduction of saliva into the arteries and veins, are conclusive proofs of its activity; whilst the absence of all such symptoms on the injection of the other animal fluids into the circulatory system demonstrates that, not to any physical or mechanical influence, but to a peculiar property inherent in itself, is saliva indebted for the manifestation of its physiological action."

"A late number of the 'Veterinary Record' contains the translation of a paper on rabies by Dr. Eckel, an abstract of which appears in the 'Lancet' (Oct. 10, 1847). It appears from these researches that, contrary to the usual opinion, which attributes the disease in the dog to the influence of heat and thirst, that the greater number of cases occurred in February and May. The disease was also observed to affect chiefly animals in easy circumstances, and more commonly in mongrel than in well-bred dogs. The large proportion were dogs; of 141 cases there were only 15 bitches; no instance was known among castrated dogs. The disease seldom attacked watch-dogs, or those employed in labour."

The malady can only be well defined during the period of its development, and that by three characteristic phenomena:

"1st. The accession of fury, with inclination to bite.

"2d. The change in the voice, and the bark.

"3d. Paralysis of the inferior maxilla.

"These three symptoms are constant and pathognomonic. The invasion can only be perceived by the master of the dog, or one who is intimately acquainted with the natural disposition and habits of the animal, and who submits him to a careful examination. In the room the disease shows itself by the animal exhibiting a great deal of anxiety; he gets up and lies down again—seems uneasy—forsakes his accustomed place—his habits are perverted—one moment he will obey the voice of his master with astonishing punctuality, the next moment he pays not the slightest attention to him, or if he does, it is with repugnance—he keeps constantly near the door—he tries to get out, without having any occasion to satisfy his natural wants. The urinary and fecal evacuations are scanty; to which may be added, the loathing of food, in particular, animal food, and a desire to drink cold water, or cold milk, without, however, partaking of much at a time.

"Out of doors he follows his master with reluctance, and without the least sign of satisfaction or pleasure. Contrary to his usual custom, he walks behind him, and his attention is only excited when he meets with other dogs, cats, or birds, which he tries to reach, and even to bite. He picks up and swallows all sorts of filth and rubbish, such as the excrements of other animals, dirt, old leather, bits of cloth, &c.

"These symptoms are aggravated on the second, or, at the latest, on the third day, when the appetite becomes entirely lost—the animal, when at liberty, furtively forsakes his home, bites all animals it meets with, and even man, if obstructed or tormented by him. After several hours' running he returns to his home exhausted, throws himself in some obscure corner, and allows himself with difficulty to be approached even by his master. It becomes, then, most dangerous to use constraint, but with kind usage he may be made to obey. If in this state he is not watched, he again runs away, and never returns; if, on the contrary, he is carefully watched, he may yet continue to follow his master, but bites all dogs, cats, or other animals in his way, without allowing himself to be intimidated by the voice of his master, after which he will again return to

him, and allow himself patiently to be muzzled by him, and will even follow him, if kindly treated. In this manner, observes Dr. Eckel, many dogs attacked with the acute form of rabies have been brought to the Imperial Veterinary Institute of Vienna by their masters, even without muzzle or chain. These dogs are very quiet if treated with kindness; but as soon as they are shut up in their cages, and see other dogs, or even hear them, the accession of rage takes place, and they furiously gnaw their litter, the sides, floor, iron bars, &c., of the cage; and when living animals, such as small dogs, pigs, or sheep, are brought near them, their fury for biting redoubles; their carnivorous instinct then reaches its acme—they put themselves in the position of the tiger ready to spring on its victim. These paroxysms occur several times in the day, even without any apparent existing causes. After each paroxysm, dogs will generally gladly lap some clean water, but deglutition is difficult; they either lie down or sit on their haunches, and make themselves heard by a frequent bark, the muzzle being turned upwards. This bark is peculiar and characteristic—*sui generis*. It is something between the ordinary bark of the dog and the howl. In the beginning the voice is sonorous and metallic, afterwards it becomes hoarse. In some cases a slight trembling is perceived, which, according to M. Eckel, never terminates in convulsions, but in a sort of apparent sleep, during which the dogs never cease biting any object presented to them. The desire to bite subsists after the access of furor has subsided.

“On the second day the paroxysms are at greater intervals, less frequent, and of shorter duration. During the intervals, the dog remains in a recumbent posture: if he attempts to get up, the posterior extremities seem weak and vacillating—the inferior maxilla drops, and his mouth is half open—drowsiness predominates—the animal expresses no longer a desire for water—he lies quietly with his head on his belly—the sonorous metallic bark is no longer heard, but instead of it a short, hoarse howl is from time to time audible—the external objects which excited him before lose their effect; and it is with difficulty that the animal is made to rise. In ordinary cases this general debility passes, at the third, or, at the latest, the fourth day, into a complete state of paralysis. Then the animal is constantly lying on one side—the head and legs are extended—the mouth and eyes half open, the latter are fixed, the pupil immobile and dilated, the cornea dusky and shrunk. Sometimes a fetid diarrhœa exits, the alvine excretion being of a grayish or blackish colour, and voided involuntarily. The respiration now becomes imperceptible, and in general the animal dies quietly, and without a struggle.”

On the pathology of the disease it cannot be said that much light has been thrown by M. Eckel's researches; but it is evident, from the following remarks, that he entertains the opinion of its intimate connexion with the venereal manifestation. Speaking of the peculiarities of the canine species, he observes:

“The physiological characters of the dog, which influence more particularly the generation of rabies, and which are to be sought for in the vegetative, sensitive, and irritable phases of his nature—the fact of his immoderate venereal desires, and his extraordinary fecundity—his quick growth, and the speedy development of his faculties—his appetite, and necessity for animal food, putrefied in most instances—his rapid digestion, and continual voracity—his excretions, so repulsive in their odour—the faculty of bolting his food, with an equal facility of vomiting it up again—the rapid renewal of the blood—the acceleration of the respiration and circulation—the development of the brain—the large amount of instinct—the activity of the intellectual faculties—the facility of impression—its natural pugnacity and passion; on the one side, an unlimited attachment; on the other, an implacable hatred, of which no other animal seems to be capable—his temperament; in youth sanguineous, in old age melancholic; all this indicates a peculiar predisposition to the diseases of which rabies seems to be the type, *par excellence*. Add to this, the many changes to which domestication subjects the dog. If one considers the ill-treatment he often receives, being sometimes nearly starved to death, at others fed to excess; often exposed to the intensity of heat and of cold; sometimes allowed an immoderate indulgence of the venereal desires, at others prevented at the very moment of satisfying the same; and if we reflect for a moment on the effects produced on the morals of

some degraded beings of the human species by venereal desires, we may easily understand the results that follow their restraint, and also the entire prevention of satisfying them. In the dog, where the ejaculation of the semen is to follow so closely upon its secretion, he not being, like man and other animals, provided with a vesiculæ seminales, it will not be difficult to comprehend how a nervous irritation, with a sanguineous decomposition, and finally rabies and death, should become developed in him.

"So long as the specific cause of the pathological nature of rabies remains undetermined, it would be impossible, *a priori*, to decide on any curative method so as with certainty to combat the disease. Much here must be left to chance. Confining ourselves to the careful observation of the malady, allowing every liberty and every latitude to animals in order to admit of a full manifestation of their instinct, is the only way by which we may one day hope to arrive at an efficacious therapeutic treatment of rabies."

11. *Treatment of Hydrophobia by Chloroform.*—Two cases are recorded in which the inhalation of chloroform has been employed in the treatment of hydrophobia. The first case is reported by Dr. Smiley,* and was that of a boy, æt. 14, who was bitten by a dog known to be rabid, nine weeks previously. The symptoms were greatly relieved, but the child died unexpectedly. The second case, narrated by Mr. Ackerby, had a fortunate termination. The patient had been bitten *eleven years* previously by a rabid cat. The symptoms were irritability of temper, spasm about the throat, dribbling of viscid saliva, delirium, &c.†—[The length of time which had elapsed since the alleged inoculation, renders the hydrophobic characters of the case somewhat doubtful.]

PART II.—SPECIAL PATHOLOGY.

§ I.—Diseases of the Nervous System.

12. *The relation of Cerebral Congestion to Apoplexy and Ramollissement.*—In a memoir presented to the Académie de Médecine, M. Durand Fardel urges the important part which congestion assumes in the pathology of apoplexy and cerebral softening. Contrary to the opinion of Rostan, he regards the latter as invariably induced by congestion, and never by a degeneration analogous to senile gangrene. The same importance is attached to congestion, as a condition premonitory of apoplectic effusion. In the ensuing discussion, M. Rochoux repeated a previously expressed opinion, that in the majority of cases of apoplexy there are no premonitory symptoms indicating vascular fullness, but that a certain particular change takes place independent of congestion; the consequence of which is disruption of the capillary vessels. (See 'Abstract,' Vol. I, p. 203.)‡

13. *Delirium of Fever, Tartar Emetic and Opium in.*—The practice recommended by Dr. Graves, of treating the cerebral excitement of fever by tartar emetic and opium, is highly approved of by Mr. Todd, in an interesting communication on the state of the brain in fever.§

14. *Tubercular Disease of the Brain.*—A very instructive case of this disease, exhibiting the insidiousness with which its approaches are marked, is published by Mr. Salter; of Poole.¶ The subject was a young lady, æt. 12, who, for two months previously, had been complaining of loss of appetite, and headache, with other symptoms which might fairly have been attributed to simply deranged primæ viæ. She had at the same time severe lameness, with tenderness of one foot. Attention was paid to the regulation of the secretions without much benefit, when, March 26, vomiting was noticed for the first time. The headache became more severe, and the head hot. Leeches were applied, which, for the time, removed the headache. After about six weeks' change of air, she was found in some respects im-

* Philadelphia Med. Exam. April, 1848.

† Lancet, July 29, 1848.

‡ Bulletin de l'Académie, and Brit. and For. Med. Chir. Rev. Oct. p. 541.

§ Lancet, June 10.

¶ Guy's Hospital Reports, Oct. 1848.

proved, but the vomiting still continued, accompanied by "whizzing" in the head. The vomiting occurred generally on first rising to dress, but occasionally also during the day. The matter brought up resembled bile. At this time her appetite was good, bowels regular, pulse 80, pupils and sight natural, but emaciation continued.

July 1. The following report was made: The patient free from pain, expression languid, eyes clear, pupil large, but amenable to light. No local or general signs of pectoral disease; not any functional derangement beside *vomiting*, which occurs about twice in the twenty-four hours. The time at which it occurs is most uniformly on changing her position in bed.

August 12. The obscurity hitherto surrounding the case at this time was removed. The occurrence of blindness, with complete amaurosis, clearly indicated organic lesion of the brain. It is curious that the vomiting now subsided, but her debility increased.

This case need not be minutely followed further; suffice to say, that the sickness returned, and the general debility increased to an alarming extent. The power of deglutition also became gradually impaired; and, toward the close, asthenic bronchitis declared itself.

After death, the lesions discovered in the thoracic and abdominal organs were not prominent, consisting of traces of pleuritis, with tubercles in the liver and lungs. The chief morbid appearances were confined to the brain, in which a large tubercular mass was found to occupy the posterior lobe of the right hemisphere, dipping deeply into its substance. The medullary portion of the brain was soft and pulpy, the posterior cornua were enlarged to the size of a pullet's egg. The corpora striata were lighter in colour than usual; and from the anterior part of the left a fleshy-looking substance, like that of the *carneæ columnæ* of the heart, stretched across to become attached to the *septum lucidum*. The optic thalami were mottled with red and gray. The left lobe of the cerebellum was also disorganized by tubercular matter; and in the situation of the *corpus dentatum* was a cavity the size of a walnut, and containing a mixture of pus and broken-down cerebral matter. The surface of this cavity was lined with a smooth vascular membrane, having projecting from it numerous hard tubercular masses of various sizes.

In remarking upon the circumstances attending this case, the author acknowledges the difficulty of determining the priority of morbid actions, but seems to consider the cerebral affection and disease of the foot to have been coeval; the disturbance of the chylipoietic organs may have been antecedent, or merely sympathetic. [We should be disposed, with him, to adopt the latter view; for as this disturbance only commenced a few months prior to death, it will be difficult to imagine that the disease found in the brain could have originated subsequently, and yet have attained so extensive a development in so short a time. It is unquestionable in our minds that the tubercular disease in the brain had long existed, and that the occurrence of functional disturbance of the digestive apparatus marked the period at which the inflammatory action and softening of the brain commenced; the results of which were the immediate cause of death.]

15. *Fungus Hæmatodes of the Brain*.—Mr. Planker narrates a case in which one hemisphere of the brain was almost entirely destroyed by a malignant growth, and yet the patient lived for many years with the intellectual faculties unimpaired. The case, he remarks, offers some points of interest in connexion with the theory of the duality of the mind advanced by the late Dr. Wigan.

The patient, a female æt. 44, for the last ten years of her life had suffered from intense pain in the head occurring at intervals, and was for nearly the whole period completely blind. The treatment adopted afforded only temporary relief, and she sunk from exhaustion. Throughout the whole period her mental powers were unimpaired.

On examination, the right hemisphere was found to be healthy, the left softened, and the anterior and inferior portion was occupied by a firm tumour, weighing upwards of eight ounces, and having the structure and appearance of *fungus hæmatodes*.*

* Prov. Med. and Surg. Journal, Sept. 20, 1848.

16. *Hydatids of the Brain*.—In communicating to the Royal Medico-Chirurgical Society the details of a case reported by Dr. Stewart, Dr. Gregory remarked on the greater rarity of acephalocysts, or hydatids, in the intra-cranial structures, than in the thoracic or abdominal tissues, and referred to Dr. Craigie's observation that in the greater number of reported cases only solitary serous cysts existed, not clustered hydatids. After noticing briefly three cases, one described by Rendtorff, a second related by Mr. Mowatt, of Worthing, in the second volume of the 'Medico-Chirurgical Transactions,' and the third communicated by Mr. Burnell to the late Dr. Baillie, who remarked that none such had ever fallen under his own observation, Dr. Gregory states, as the result of his own reading, that the normal series of symptoms flowing from the development of intra-cranial hydatids seem to be the following:—Pain in the head, succeeded, after a considerable time, by epileptic fits, and terminating in apoplexy. The Pathological Museum of the Army Medical Department at Fort Pitt, Chatham, contains two specimens of hydatids of the brain. An account of all that is known relative to these cases has been furnished to Dr. Gregory by Dr. French. In the first case, no cerebral symptoms were noticed during life. After death, cysts, described as hydatids, were found beneath the pia mater, covering the hemispheres, in the right corpus striatum, and in the substance of the cerebrum in its immediate vicinity. In the second case, epileptic fits were present for three years and five months before death. Here were found small round bodies, like hydatids, some hard and almost cartilaginous, not only beneath the pia mater, but also generally throughout the substance of both the cerebrum and cerebellum. They were collected to the amount of an ounce or more. Each consisted of a distinct membranous sac, which sometimes appeared double, and in layers like an onion. All the cysts contained a clear fluid, with more or less cheesy-looking matter. Dr. Gregory then communicated the following case, which, at his request, had been transmitted to him by Dr. Stewart. The patient, a gunner of the Royal Artillery, æt. 24 years and 9 months, was admitted into the Artillery Hospital, Woolwich, on the 29th April, 1848, immediately on his arrival from Malta, with the following history:—He had arrived in Malta with his company in February, 1847, and from that time suffered with constant headache. In November, 1847, he had a severe epileptic fit, followed by coma. Subsequently imbecility showed itself, and vision became impaired, the pupils sluggish, and the left eyelid became affected with slight ptosis. His memory became defective, and he became subject to fits of uncontrollable laughter. His hearing was but little affected, but both eyes were amaurotic. He died after a succession of epileptic fits, ending in coma. After death there was found on the middle fossa of the base of the cranium, between the dura mater and the cranial bones, a mass the size of the closed fist, which proved to be a collection of hydatids. They were numerous, and varied in size from a pea to an orange. The substance of the brain was compressed, but otherwise normal.*

17. *Tetanus*.—Dr. Wilmot, who has recently published on this disease, states his belief that its division into acute and chronic is perfectly justified by the results of observation, and that such a division is necessary, in reference both to prognosis and treatment. Idiopathic tetanus, he observes, has generally a favorable issue, while the reverse is generally the case in the traumatic form. He regards a peculiar expression of countenance as a very characteristic sign of the impending malady, and more to be trusted to than difficulty of swallowing.

In reference to the pathology of the disease, the author thinks that it is proved not to be dependent upon hyperæmia, or effusion on the cord, by the fact that in post-mortem examinations such appearances are as often absent as present; and, on the other hand, that in cases of ascertained spinal meningitis, as in those described by Dr. Mayne and others, the peculiar symptoms of tetanus are not present.

[In this our author is mistaken. Dr. Darby, in describing an epidemic of spinal meningitis (Abstract, Vol. III, p. 151), as also Dr. Hicks (Abstract, Vol. VI, p. 184), distinctly refer to tetanic symptoms as prominent phenomena.]

Dr. Wilson is on these grounds inclined to refer the disease to augmented ex-

* Reported in various journals.

citability of the true spinal system, of a purely functional character, and makes known in the following propositions, with which the memoir concludes.

1st. That tetanus depends on irritation, direct or indirect, of the excito-motory system, by which it becomes surcharged with motor influence, and that inflammation in or about the cord, or any appreciable lesion, is not an essential condition of the development of the disease.

2d. That while we have ample evidence, physiological and practical, that opium is ill calculated to fulfil the indication in tetanus, namely, to diminish the excitability of the true spinal cord, until our views become improved, and the knowledge of our anti-tetanic agent ceases to be a desideratum, we are not justified in altogether discarding the use of the drug.

3d. That our grand object in the treatment of tetanus should be to support the patient's strength, with a view to compensate the vital powers for their great exhaustion, consequent upon the expenditure of force in the violent muscular contractions.

4th. That as the removal of the exciting cause, once that the first evidence of irritation propagated to the spinal cord becomes manifest, does not, in the least degree, check the progress of tetanus, or abate the violence of its symptoms, all operations in traumatic cases are not only unnecessary but injurious.*

18. *Trismus nascentium*.—It will be recollected that Dr. Sims published a paper on *trismus nascentium* (see Half-Yearly Abstract, Vol. IV, p. 282), in which he maintained that the disease was caused by *displacement of the os occipitis*, whereby compression was made upon the cerebellum, medulla oblongata, and the important nerves originating from it. This displacement, he believed, proceeded from the careless habit of suffering young infants to lie too much upon their backs, and he suggested the simple remedy of placing them on their sides, and letting them rest upon soft leather pillows. Since that time, Dr. Sims has closely studied the subject, and although he has discovered the fallacy of some of the views he then entertained, still he is satisfied that *the leading idea* is correct, and the object of this paper is to substantiate it, which he does by numerous carefully observed facts, and most plausible deductions. One of the errors which Dr. Sims says he once entertained was, that the displacement was attributable to *imperfect ossification of the occipital bone*; whereas he is now convinced that it is more likely to occur where ossification is *unusually advanced*. He says that, in intra-uterine life, or before parturition, the os occipitis lies *beneath* the parietal bones, but immediately after birth the occiput should bulge out, and its superior edge rest *upon* the border of the parietal bones. Unless this takes place, a more or less dangerous compression upon the soft parts mentioned will soon be produced. In most cases, if the proper position of the infant be attended to, nature will correct the evil; but it occasionally happens that surgical aid will be required to liberate the confined and misplaced bone. Dr. Sims has elevated the depressed occiput with an instrument something like an awl, upon one or two occasions, with success. He gave the details of some exceedingly interesting cases which he had saved by his method of treatment, and which strongly corroborate the views he entertains. Cases of *trismus* present different degrees of severity, some terminating fatally in a few hours, and others continuing for several weeks; but under all its varied forms, Dr. Sims thinks he has discovered one invariable diagnostic symptom, viz.: *the inability to suck the breast*. This symptom he has *never seen wanting in a single case*, and it has often served to determine the existence of the disease, where the other symptoms left room for much doubt as to the true nature of the case.

A more extended experience has convinced Dr. Sims that the disease does not arise exclusively from a depression of the occiput; he has seen cases where it arose from a depression of the *parietal bones*. The position of the child in this case should be different from the preceding. It is astonishing how promptly, according to Dr. Sims, relief is afforded in many cases, simply by placing the child in the proper position. He has seen evident improvement in half an hour or less, and complete relief afforded in the course of a few hours. He says that nothing is necessary in cases of occipital depression, but to place the child upon

* Dublin Quarterly Journal of Medical Science, Aug., 1848.

its side, so that the head may rest fairly on the temporal bone. Not *partially inclined*, so that the weight of the head will rest on the parietal protuberance, as is too often done by mothers and others, who will assert that the child has been *constantly laid upon its side, but flat upon the side of the head*, when there will naturally be a slight inclination downwards and forwards. The pillow should be of soft feathers, and beaten up so as to be thickest in the middle. In cases of parietal depression, the child should be kept almost erect on the back, or held over on the forehead. Dr. Sims recommends no medicine in the treatment of the complaint. All the distressing symptoms, such as insomnia, borborygmi, griping diarrhœa, tonic spasms, &c., disappear as the brain is relieved. He thinks that all the recoveries from this usually fatal disease have been entirely *accidental*—in the management of them the child *happened* to be placed in the right position, to allow nature to rectify the evil. He is convinced of this in regard to the recommendation of Dr. Eberle, to apply *a blister to the nucha*, for then the child must necessarily be placed on the side. And as to a successful case mentioned by Dr. Stone, in his lecture to the medical class, which followed the application of sweet oil all over the body, at the request of an old woman, he is equally convinced that the good effect is more fairly attributable to the change of position accidentally made, than to any virtue of the oil. Dr. Sims spoke of certain infantile affections, which he calls *trismoid*, because they resemble true *trismus nascentium* in many particulars, but lack the grand diagnostic symptom, the total inability to suck the breast.

As to the reputed frequency of the disease in southern countries, Dr. Sims contends that we are in want of further and more careful observations, as well to settle *the existence of the fact*, as the *malign influence* of the climate. He thinks it will be found, on careful investigation, that its frequency depends more on the improper management of children, than on the climate or anything else. By reference to Curling on Tetanus, the best work extant on the subject, it will be seen that the disease has prevailed to a great extent among children in a *northern latitude*. As to the frequent occurrence of the disease in certain localities, on particular plantations in the South, for instance, Dr. Sims thinks that more careful observation is demanded. He knows of two large plantations in the same neighbourhood, on one of which the disease is very common, inasmuch that, within the last ten years, *fifty* negro children have been lost from it; whilst on the other it is *equally rare*. He is satisfied that, in these instances, the different results depend on the different degree of care and attention paid by the owners to their negro children. He is inclined to think, however, that it is far more common at the North than is generally admitted. He believes that many of the deaths in early infancy, attributed so vaguely in their bills of mortality to *convulsions, spasms, infantile complaint, &c.*, are really caused by the disease under consideration. This paper, which is published in the 'American Journal of Medical Sciences,' is deserving of the special attention of the profession.

19. *Paralysis from Arsenic*.—Two cases have been lately recorded, in which the medicinal use of arsenic was followed by paralysis. In Dr. Hasting's case, the patient had taken Fowler's solution in only three-minim doses for seven weeks.*

20. *Paralysis, with Atrophy of Muscles*.—It is a fact well established, that the nutrition of muscle is steadily proportionate to the energy and regularity of its action, and that as, on the one hand, a continued action may lead to exaggerated muscular development, so, on the other hand, disease leads to wasting of the muscular fibre. Atrophy of muscle is, therefore, seen to be a general concomitant of paralysis, and may in itself, in certain cases, materially interfere with the restoration of power, even although the abstracted or diminished nervous influence be regained. Mr. Barlow, in a recent paper published in the 'Medical Gazette,' has taken advantage of the effect of action upon muscle, to propose that, where voluntary power is lost, involuntary or excited motion should, where it is possible, be encouraged and maintained, for the purpose of preventing the wasting of the limb, believing that action of a muscle, of whatever kind, as is shown by Mr. Paget, is, in a degree, conducive to its nutrition. With these views he proposes that galvanism should be systematically employed, as well as other means of producing

* Prov. Med. and Surg. Journal, Aug. 23, 1848.

excito-motory movements. He very properly remarks, that as, for instance, in the paralysis of dentition, a certain amount of voluntary power is often recovered, but it is often too late to be of material service to the patient, as in the meantime, from the want of action of the muscles, nutrition has remained in abeyance, and the whole limb has become atrophied and shortened. In such cases, if it were possible to prevent the atrophy by the induction of excited muscular action, he considers that this wasting might be prevented, and the restoration of voluntary power, when so fortunate a result occurred, would find the limb in a condition, as to length and symmetry, such as to be rendered serviceable.*

21. *Neuralgia*.—Dr. Ruhbaum, of Potsdam, bears testimony to the occasional benefit to be derived from the use of Indian hemp in facial neuralgia. The dose was equivalent to a grain of the resinous extract.†

22. *Peculiar Affection of the Portio Dura*.—Dr. Graves describes a remarkable affection, previously unnoticed, of the portio dura, which exhibited itself in the production of spasmodic twitchings of all the muscles supplied by that nerve. The case is that of a female, æt. 40. The complaint commenced by spasms of the lower eyelid of the right side, producing a kind of winking, and the other muscles gradually took on the same action. The disease was unprecedented by pain in the head or ear. General health good. On admission, all the muscles of the face supplied by the seventh nerve were affected with spasmodic contractions, occurring many times in a minute. The angle of the mouth and ala nasi of the right side were pulled towards the ear. The platysma participated in the spasms, which, moreover, continued during sleep. There was constant noise in the right ear, but there was no pain, or loss of hearing.‡

[We have recently met with a precisely similar case, also in a female, æt. 60. In her the spasm returned at intervals of half a minute or minute, for several minutes together, and were accompanied by lachrymation, but without pain. The movements were so great that she was obliged to steady the cheek with her hands.]

§ II.—Diseases of the Respiratory System.

23. *Movements of Respiration in Health and Disease*.—The elaborate essays by Mr. Sibson on the position of the internal organs, to which we alluded in our last Report, have been followed by an equally talented exposition of the movements of respiration in health and disease; for the measurement of which he has, moreover, devised a very ingenious instrument. In the healthy state, during tranquil inspiration, he states that the costal advance is from 0·2 to 0·7 of an inch, and the abdominal 0·30; and during a deep inspiration the costal advance is from three-quarters to two inches, and the abdominal from three-quarters to one inch and a half. The increased motion of deep abdominal inspiration may be well observed in the recumbent posture.

In studying the modifications of the respiratory movements, Mr. Sibson first speaks of those which take place during a healthy state of the internal organs. The causes of the disturbance in such conditions comprise spinal distortion, injury or disease of the ribs, intercostal muscles, and contiguous parts which restrain the costal motion, peritonitis, and abdominal distension, which may interfere with the descent of the diaphragm. In a subsequent part of his paper, the author considers the effects of disease on the respiratory organs themselves as follows:

“If there be extreme obstruction to inspiration in the larynx, the diaphragm descends with energy, lengthening the lungs, and as air cannot enter these organs readily, they collapse, and the costal walls fall back during inspiration, owing to atmospheric pressure. In emphysema and bronchitis, there is obstruction to respiration in the smaller bronchi; hence, in inspiration, while the diaphragm, descending, draws down and elongates the lungs, and the upper part of the chest draws them upwards, air not being able to enter freely, the lower part of the chest collapses. In pleuritic effusion, pleuritis, condensation of the lung, phthisis and pneumonia in certain stages—diseases which prevent the expansion of the whole or part of one

* Medical Gazette, Sept. 29, 1848.

† Medicinische Zeitung, in Lancet.

‡ Op. cit. 571.

lung, the movements of respiration are lessened, annihilated, or reversed over the affected part, and exaggerated everywhere else. If the upper lobe be affected, the five superior ribs—the thoracic set, are restrained; if the lower lobe, the sixth, seventh, and eighth ribs—the intermediate set, and sometimes the four lower ribs—the diaphragmatic, also are restrained. This division of the ribs, proposed by the author, on physiological grounds, in a paper on the Mechanism of Respiration, in the *Philosophical Transactions*, he retains throughout the present paper on pathological grounds. The last section relates to the influence of affections of the head on the respiratory movements. The rhythm of respiration is an important diagnostic sign. Inspiration and expiration are equal in health, though expiration is often prolonged. In laryngitis, emphysema, and sometimes in phthisis, the expiration is prolonged, owing to obstruction. In laryngitis, the expiration is equally slow throughout; in emphysema, it is quick at first, when the bronchi are largest; then slow, and gradually slower towards the end, where the tubes are smallest and the obstruction greatest. The expiration is lengthened in proportion to the obstruction in the bronchi. The author concludes by referring to the diagnostic value of the signs in question, endeavouring neither to over- or under-estimate them.

“Mr. Sibson showed the application of the chest-measurer—an instrument which measures the diameter and the respiratory movements of any part of the body. In carrying out the inquiry into the morbid respiratory movements, Mr. Sibson retained the division of the ribs into three sets—the thoracic, diaphragmatic, and intermediate, proposed by him in a previous paper on the Mechanism of Respiration, on physiological, and confirmed on pathological grounds. The five superior ribs—the thoracic set—embrace and expand the upper lobes; if the expansion of either upper lobe be imperfect or impossible, owing to disease, as phthisical cavities or consolidation, the motion of the thoracic ribs over the seat of disease is restrained, annihilated, or reversed. But it is not only in disease of the lung that they are restrained in motion—lateral curvature, injuries to the ribs, local pleurodynia, disease in the axilla, shoulder, or surrounding tissues, anything that induces the movements of the ribs to cause pain or mischief, may diminish or arrest their motion. As the right middle lobe is behind the third, fourth, and fifth costal cartilages on the right side, and the heart behind those on the left, affections of the middle lobe will restrain the motion of the right cartilages and ribs—pericarditis. Pericardial adhesions and heart disease will restrain the left. The ninth, tenth, eleventh, and twelfth ribs form the diaphragmatic set, which protect the liver, spleen, and stomach, and which expand when the diaphragm descends, then dilating and embracing the inferior part of the lower lobes. In health, the motion of these ribs, during tranquil, involuntary inspiration, is greater than that of the thoracic ribs. This is owing to the great descent of the diaphragm. The abdomen, in man, moves forward during a tranquil inspiration nearly the third of an inch. The diaphragmatic ribs move outwards the tenth of an inch, while the thoracic ribs advance only from two to seven hundredths of an inch. This might be expected, from their action being supplementary to that of the diaphragm. The motion of these ribs is arrested as in peritonitis, when that of the diaphragm is so also; it is proportionally restrained when that of the diaphragm is so, in abdominal distension, and other such cases, at the same time that the motion of the thoracic ribs is proportionally exaggerated. The diaphragmatic ribs and diaphragm, on the affected side, may be likewise restrained by pleuritis or pneumonia of the inferior part of the lower lobe. The sixth, seventh, and eighth ribs, which have a conjoint cartilage from the intermediate set, partially diaphragmatic, protecting the liver and stomach, and partially thoracic, embracing and expanding the lower lobes. Their inspiratory movement may be restrained by pneumonia, pleuritis, and condensation of the lower lobe, and by pleuritic effusion; that of the sixth rib, by disease either of the lower portion of the upper lobe, or the upper portion of the lower lobe. The different sets of ribs are each restrained by the affection of a different part of the chest or abdomen: the thoracic set, by affections of the upper lobe; the intermediate set, by those of the lower lobe; and the diaphragmatic set, and the diaphragm, by those of the lower part of the lower lobe and the abdomen. In condensation of the whole of one lung, or extensive effusion into either pleura, the expansion of the whole of the ribs, and the descent of the

diaphragm on the affected side, are restrained, while on the opposite side they are exaggerated. This division of the ribs into sets is practical, and based upon their respective functions, and does not differ materially from the anatomical divisions in use.

When inspiration is obstructed, either in the outer passages or smaller bronchi, the respiratory movements present an important and readily recognised class of signs. If the larynx be almost closed, the lungs can scarcely expand during inspiration; the diaphragm, descending with power, draws down and elongates the lung; as the air cannot rush in sufficiently, the lung collapses, and the walls of the chest are flattened and narrowed during inspiration, being forced inwards by the pressure of the atmosphere. This is well illustrated by an observation made by Professor Sharpey, which any one may repeat. Pass a tape round the chest, close the glottis, and make the diaphragm descend as in inspiration. The abdomen will protrude considerably, and the chest be narrowed from half an inch to an inch. I have observed the same thing in hiccough. Whenever there is great obstruction in the outer passages, the chest, especially at the lower end of the sternum, collapses during inspiration. When there is obstruction to inspiration in the smaller bronchi, either from narrowing of them, as in emphysema, or from their being plugged with fluid, as in bronchitis, the superior thoracic ribs expand with force, and the diaphragm descends rapidly, and as sufficient air cannot enter, the lower end of the sternum and the adjoining cartilages recede during inspiration. But it is not only in such cases that the lower end of the sternum falls back during inspiration. When much fluid is effused into either pleura, if the diaphragm descend during inspiration, the sac containing the fluid is elongated, and the lower end of the sternum and the adjoining cartilages over the affected side may fall in. The sternum may also fall in when there is extensive pericardial effusion, if the diaphragm descends, elongating the sac. If the heart be large and universally adherent, the descent of the diaphragm draws down the heart; and as the expanding lung cannot pass between the heart and the ribs, the sternum often recedes during inspiration. If the heart be simply enlarged, the lungs intervene between the heart and the ribs, and though the movement of the lower end of the sternum and the adjoining left cartilages are restrained, yet they seldom recede. We are thus sometimes furnished with a sign to distinguish enlargement of the heart, when with or without adhesions. It is well to remember that the normal movements of the left ribs, all but the superior thoracic and the diaphragm, are somewhat less than those of the right side. He then remarked on the recognised value of the altered rhythm of respiration as a sign of chest disease. In laryngitis, bronchitis, and emphysema, the expiration is longer than the inspiration, in proportion to the obstruction to respiration. In laryngitis, the expiration is prolonged, owing to their being then in contact; while in inspiration they are drawn asunder, and it is equally slow throughout, owing to the obstruction being equally great throughout. In emphysema and bronchitis, the obstruction being in the smaller bronchi is greatest at the beginning of inspiration and the end of expiration. When the chest expands, the bronchi, as well as the air-cells, necessarily dilate; the tubes are therefore larger at the end of inspiration and beginning of expiration. If the obstruction be from fluid, the fluid fills up the tubes most completely towards the end of expiration; it is then that the rhonchi are most frequently present, and most sharp, that expiration is most difficult. In inspiration the obstruction diminishes, in expiration it increases during the acts. In emphysema and bronchitis the expiration is quick at first, then slow, and becomes gradually slower towards the end. In phthisis the expiration is prolonged in like manner, when there is similar obstruction in the air-tubes or cavities. Only in peritonitis had he observed the expiration to be shorter than the inspiration, owing, he conceives, to the resistance offered to inspiration by the constant rigidity of the abdominal muscles. The existence of the signs indicated in this sketch cannot, of course, be conclusive as to the diagnosis of any disease; but their observation draws one's attention to the seat, and often informs one as to the nature of the disease. The disturbed rhythm and the reversed respiratory movements are particularly of value as indications of the presence of chest disease.*

* Reported in *Lancet*, June 3.

24. *Opening of the Ranine Veins in Angina.*—M. Ceglie has derived much advantage from this mode of bleeding in diseases of the throat. He explains the success by reference to the anatomical distribution of the blood-vessels. He has seen it afford great relief in the acute stages of inflammatory croup, the symptoms of oppression, the agitation, suffocative cough, &c., ceasing almost instantaneously.

To perform the operation, the tongue is drawn forward, and after puncturing the veins, the mouth is frequently gargled with warm water. The bleeding may be repeated three or four times in twenty-four hours.*

25. *Spasm of the Glottis in the Adult.*—Dr. Walker, of Teignmouth, adduces a case in support of Dr. Wardell, in the controversy respecting the occurrence of spasm of the glottis in the adult. (Abstract, Vol. VII, p. 44.) The patient was, as is generally the case, a female, and when seen was labouring for breath, which she drew at long intervals, with a loud crowing inspiration, livid countenance, cold extremities, &c. The spasmodic condition varied in intensity, and was quickly relieved by antispasmodic remedies.†

26. *Pneumonia.*—Dr. Hughes has published the results of fifty-four cadaveric inspections of cases of pneumonia, the analysis of which gives some results worthy of notice. He finds that the *age* most prone to the disease is between 20 and 30, which he thinks probably arises from the fact of a larger proportion of adults being alive between those years than any other decennial period. Of the *sexes*, the male afforded the most, but not so much as to render it improbable that the female would not be equally liable to the disease, if exposed to its causes in the same degree.

Respecting the lung most frequently affected, Dr. Hughes finds that the preponderance is considerably on the side of the right lung, but it is strange that, in the fatal cases, the two lungs were equally affected. As might be expected, both lungs were found to be simultaneously affected, oftener than one separately. As to the part of the lung most commonly affected, Dr. Hughes's observations confirm the general opinion that the base is the part most frequently diseased, especially in the primary form. Among his cases are found a large proportion of instances of gangrene.‡

—A case of pneumonia has recently occurred in our practice, and elsewhere reported, which is worthy of notice, from the fact that perfect resolution took place without the reappearance of "crepitus." The occasional occurrence of such instances is noticed by Graves, Stokes, &c., but that they are rare may be surmised from the fact that few of the systematic writers on medicine, even of recent date, have alluded to it.§

27. *Phthisis, Œdema in.*—Towards the close of this, as well as other exhausting diseases, it is not unusual to find one of the limbs, and sometimes both, infiltrated with fluid. This is generally attributed to debility; but in some instances in which the cause has been specially sought for, it has been shown by Piedagnel and Dr. Lewis to depend upon partial obliteration of the iliac vein, usually the left. The former explains the occurrence of the coagulation of the blood, upon the supposition that the wasting of phthisis causes the vein to be brought into more direct contact with the vertebral column, against which it is compressed by the corresponding artery. In connexion with the subject, we would call the reader's attention to an essay by M. Bouchat on the spontaneous coagulation of the blood in cachectic diseases (Abstract, Vol. II, p. 153), as being a more plausible explanation of the phenomena in question.||

§ IV.—Diseases of the Circulatory System.

28. *Spasm of the Heart.*—The verdict delivered by the jury in the case of the sudden death of Lord George Bentinck has given rise to the insinuation, on the part of an influential cotemporary, that "spasm of the heart" is a creation of the imagination, or is at least a condition which is not understood. He admits that the heart's contractions may be influenced by causes both mental and physical,

* Gazzeta Toscana della Scienze, and Prov. Journal, Aug. 9.

† Prov. Med. and Surg. Journal, July 26, 1848.

‡ Guy's Hospital Reports, Oct. 1848.

§ Prov. Med. and Surg. Journal, May 17.

|| Philadelphia Examiner, May, 1848.

and that in other involuntary muscles, as in the intestines, spasm is no unusual occurrence, but he doubts if spasm of the heart can occur in a healthy state of the organ. In this we entirely differ from him. There is no necessity for pointing out the *à priori* probability that the muscular tissue of the heart can be affected by spasm, as there is nothing in its ultimate constitution different from other involuntary muscular fibre, as it exists in the coats of the intestines, &c.; all we have to ascertain in reference to the justification of the verdict alluded to is, that there are circumstances the operation of which is capable of inducing spasm of the organ in question. It is not difficult to comprehend that many such cases do exist, the influence of which may be either direct or reflected. Among the direct, we would name sudden acceleration of the circulation, or the direct application of the blood charged, *pro tempore*, with some irritating ingredient; the indirect or reflected would be more numerous, consisting of irritation of various kinds, physical as well as emotional, reflected through the spinal marrow upon the cardiac plexus. To take one of these—if mental emotion of a given degree may cause palpitation, why should not a deeper emotion produce a tonic contraction of such duration as shall destroy life? Is not this the explanation of some cases at least of sudden death from mental shock? The explanation is at least as feasible as that which assumes a paralysis of the cardiac muscle.

But it may be further stated, that although the Editor of the Journal referred to and some of his correspondents refuse to admit the possibility of spasm of the healthy heart, such a pathological condition is fully recognised by two of the best authorities on the subject of heart disease of the present day, viz. Dr. Williams and Dr. Latham.

In his 'Principles of Medicine,' p. 374, the former thus writes: "Death by cardiac syncope, or sudden cessation of the heart's action, may occur in two ways: 1st, by the muscle losing its irritability, so that it ceases to contract; and, 2dly, by its being affected by tonic spasm, in which it remains rigidly contracted, losing its usual alternation or relaxation. In both these cases death is quite sudden, the patient expiring with one gasp. In the first case, both sides of the heart are found after death distended with blood, and if the examination were made after death, the blood in the left cavities would be found to be fluid. In the second case, the heart appears small, and very hard; the ventricles are found so firmly contracted, that the cavity is almost obliterated, and contains no blood; the muscle is very firm, but after maceration in water, the walls of the ventricles yield to the pressure of the fingers, and the cavities may be restored to their natural dimensions."

But Dr. Latham is still more explicit. After alluding to Heberden's description of angina pectoris, and showing that he distinctly referred the disease to "spasm" (*distentio*), he proceeds as follows:

"But the heart is a muscle, and its functions flow from its attributes as a muscle. Now we are in search of something in the heart which, as the concomitant of pain, may be disabling to its natural functions, and capable, according to its degree, of abolishing them altogether. This we find in *spasm*."

In a further page, he adds remarks on certain mysterious cases of sudden death analogous to Lord George Bentinck's, and clearly enunciates his belief that such are to be attributed to a first and fatal attack of angina pectoris—spasm of the heart.*

29. *Statistics of Valvular Disease*.—Dr. Whyte Barclay has examined the Museum of St. George's Hospital, in reference to the statistical history of heart disease, and has made the preparation the basis of an elaborate paper, read before the Medico-Chirurgical Society. In this the author exhibits the following facts with regard to seventy-nine cases:—The condition of the valves, aortic and mitral; the age and sex of the patient; the existence or absence of atheroma in the aorta; the previous existence or not of acute rheumatism; the state of the heart as to size, thickness of walls, &c.; the state of the pleura and pericardium, as to recent inflammation or old adhesions; the state of the kidneys; other disease found in the body; and the chief cause of death. The author institutes a minute comparison of the seventy-nine cases, with reference to these points; and remarks, in conclusion,

* Lectures on the Heart, vol. ii. p. 386.

that some of the deductions seem to him "worthy of attention, and demanding at least further investigation. The liability to double valvular disease (rather than disease of either the mitral or aortic valve separately) in consequence of rheumatic endocarditis, and the early incursion as well as the commonly early termination of that disease—the limit put by age in so marked a manner to fibrinous deposit on the valves of the heart—the very large proportion, amounting to almost one half, of the fatal cases of granular kidney found coincident with valvular disease, and its comparative rarity in those cases in which the kidney is large and mottled—are all facts clearly established with regard to these cases. To others must be left to determine whether they hold good in their more general application.

"One commonly received opinion these cases contradict, viz. that atheromatous disease affects by preference the mitral valve; and another is at least doubtful, viz. that it is in the advanced state of Bright's disease that endocarditis is liable to occur, unless we admit a form of endocardial inflammation without fibrinous deposit."

30. *Aneurism of the Aorta*.—Dr. Bellingham has continued his communications on cardiac pathology by the publication of an important series of cases, of which, however, we can only give the deductions drawn; these are to the following effect:

1st. That a double, not a single sound, characterises aneurism of the arch of the aorta, which closely resembles the double sound of the heart, and may be termed its *normal* sound.

2d. That the normal double sound of aneurism of the arch of the aorta has its cause in the friction between the blood and the lining membrane of the orifice and parietes of the sac, because there is no other agency to which it can be referred.

3d. That the normal second sound of aneurism of the arch of the aorta is caused by the regurgitation of the blood into the sac from the aorta and large vessels which arise from it.

4th. That the first, or the second, or both aneurismal sounds, may be replaced by a murmur, which may have either a blowing, sawing, or filing character; and that such murmurs may be regarded as the *abnormal* sounds of aneurism of the arch of the aorta.

5th. That the first aneurismal sound is much more frequently superseded by a murmur than the second, because the force with which the blood is transmitted to the sac by the left ventricle is much greater than that with which it regurgitates into the sac at the period of the ventricular diastole.

6th. That the abnormal sounds of aneurism of the arch of the aorta, equally as its normal sounds, are caused by friction between the blood and the orifice or parietes of the sac; and that they are nothing more than exaggerated normal sounds—exaggerated, because the degree of friction is then increased.

7th. That in aneurism of the arch of the aorta pointing externally, the sound is not always double, but a double impulse is frequently also perceptible to the hand.

8th. That the second impulse of aneurism of the arch of the aorta has its cause in the same agency which gives rise to the second sound; consequently neither a double sound nor a double impulse are perceived in aneurism of the abdominal aorta, or of any of its branches.

9th. That the phenomenon known under the name of *frémissement cataire*, or purring tremor, whether it occurs in an aneurism or a large artery, is nothing more than the pulse of aortic regurgitation on a large scale; consequently that it is a sign of regurgitation into the ventricles of the heart, into an aneurismal sac, or into a large or dilated artery.

10th. That the remarkable resemblance between the normal and abnormal sounds of aneurism of the arch of the aorta, and the normal and abnormal sounds of the heart, renders it probable that the mechanism of their production is the same.

11th. That the abnormal sounds of the heart, having their seat at the orifices of the ventricles, and being the result of increased friction between the blood and the parts through which it passes, are (like those of aneurism of the arch of the aorta) to be regarded as nothing more than exaggerated normal sounds.

12th. That the impulse of the healthy heart, like that of aneurism of the

arch of the aorta pointing externally, is *double*, not single; and that in certain abnormal conditions of the heart, this second impulse becomes very distinct, when it has been termed "the lack stroke of the heart," or "the diastolic impulse."

13th. That the second impulse of the heart (like that of aneurism of the arch of the aorta) is felt exactly at the period of the second sound; and both sound and impulse appear to be produced by the same agency.

14th. That as sounds almost precisely similar to those of the heart are developed in an aneurismal sac, which has neither muscular walls nor a valvular apparatus at its orifice, the latter do not appear to be as essential to the production of the normal sounds of the heart as most writers suppose.

15th. That the ordinary theory of the heart's sounds, which refers the normal sounds to one cause, and its abnormal sounds to a totally different cause, fails to explain several phenomena connected with the heart's action and sounds.

16th. That the theory of the mechanism of production of the heart's sounds, laid down in the preceding pages, satisfactorily explains every phenomenon connected with the normal and abnormal sounds of this organ.*

[Under the sections of Diseases of the Chylopoietic and Genito-Urinary Systems, we have so few subjects to notice, that we shall postpone them to our next Report.]

§ V.—*Diseases of Uncertain Seat.*

31. *Diabetes.*—In a clinical lecture delivered at King's College Hospital, Dr. Todd has given an account of some experiments which he performed to test the accuracy of Bouchardat's statement, "that, if all amylaceous ingredients were removed from the food, sugar would disappear from the urine." Two patients were placed in a separate ward, were locked in, and were only communicated with by the nurses, house-physician, and clinical clerks; and by this means they were prevented from getting any aliment which had been interdicted by the physician. During the whole of their sojourn in this ward, which was nearly two months, these patients were confined to a diet almost strictly of animal food, and for one period they only had that diet. From time to time they were weighed, the urine was analysed, and its specific gravity, &c., noted. This mode of treatment was highly beneficial, and the patients greatly improved; one of them, however, afterwards became affected with phthisis, and died. On examining the body of this patient, almost all the organs were found stuffed with milary tubercles; the mucous membrane of the stomach was in an unnaturally vigorous condition; the liver contained less fat than usual, and the kidneys an abnormally large amount. In summing up, Dr. Todd comes to the following conclusions:—"1. The first of these is, the azotized dietetic plan of treatment is efficacious; that the patients were more benefited by it than by any other means; and that the admixture of a small quantity of vegetable food did not materially interfere with its favorable operation. 2. The evidence furnished by these cases is opposed to Bouchardat's theory, that the sugar is wholly derived from amylaceous food, and is little, if anything, short of a refutation of it. Take, for instance, one of the cases: when he was put into the solitary ward, he was deprived of all amylaceous food, and yet he still continued passing from two to three ounces of sugar daily. But it may be said that this was furnished by the greens which he then took; this, however, could not be the case, for they would hardly weigh as much as the sugar that was evacuated; but there was one period in which he did not even take greens; he took no vegetable food whatever, but lived entirely on meat, and that deprived of fat as much as possible. This period was from the 15th to the 24th of December; notwithstanding, however, this total exclusion of all vegetable matters from his diet for nine days, he evacuated in that time from twenty-five to thirty ounces of sugar, and his own

* Dublin Medical Press, June 28, 1818.

bodily weight was all the while increasing. Whence, I would ask, could this sugar have been obtained? 3. The great increase of the power of the stomach is truly remarkable; these men found no difficulty in digesting four pounds of meat, besides several eggs, in one day—a task twice as great as any ordinary stomach could perform. The highly-developed condition of the mucous membrane of the stomach was, no doubt, associated with this exalted power of digestion, and probably exists in all these cases. 4. The fact that sugar could not be detected in the substance of the kidney goes to show that it is not there secreted, that it does not enter into any organic connexion with the elements of the kidney, but merely percolates in solution through it: hence the disease of the kidney must be secondary. The sugar, doubtless, reaches the kidney in solution in the blood, and there acts upon that organ as a diuretic, passing possibly dissolved in the water that filters through the Malpighian bodies, and not being attracted from the blood through the walls of the tubes. 5. The comparative conditions of the epithelium of the liver and kidneys are very singular, and I am not aware that a similar observation has been previously made; it would tend to show with what avidity all carbonaceous matters, fat as well as sugar, are directed to the kidney in this disease. Most probably to some extent the fat of the liver goes, in common with fat from other parts of the body, to the formation of sugar; but this does not account for the deposition of fat in the epithelium of the kidneys. Lastly, these cases justify the conclusion that this disease is essentially one of the primary organs of digestion, whereby all substances readily convertible into sugar are quickly so converted; and that sugar is not digested, but passes into the blood unchanged, whence it is rapidly eliminated by the kidneys. We must not forget that this was, in fact, the view taken of this disease by Dr. Rollo, an English physician, who was the first to suggest the plan of treatment which all experience proves to be the most beneficial.”*

32. *Gout.*—In connexion with Mr. White's observations on the cause of Gout (see Art. 22), we may notice a communication, in which Mr. Pearl advocates the opinion that the principle of gout may be transmitted by contact, or near communication; in other words, that it is a contagious disease under certain circumstances. In support of this extraordinary opinion, he gives a few illustrations, of the value of which our readers may form their own opinion. He states that he had a most painful and protracted attack himself, in the spring of 1847, which lasted till near midsummer; and that, during the sleepless nights that it occasioned, he thought of every possible cause that could have produced it. It was not hereditary, nor could he call to mind one relation that had ever had it: it could not have been indolence that produced it, nor intemperance, for his habits are temperate, and he takes a great deal of exercise in the open air; then what could have been the cause of an attack that first began in the eyes, and afterwards pervaded the whole system, almost every joint, the skin, and even the pleura? His own reasoning on gout led him to the conclusion that it was an animal poison, and, being so, it might be also communicable, and that he had derived it from some one of the numerous patients afflicted with the gout that he had attended from the autumn of 1846 to the summer of 1847.

He further observes that, in one of his visits to a gentleman who suffered from repeated attacks, and in whose room he remained a long time exposed to the effluvia of his profuse perspirations, he showed him his gouty hands, and told him that he considered he had caught the gout of him, or some one else. “I have thought the gout was catching before,” was his reply; “I inherited the gout from my parents: father and mother, brothers and sisters, all had gout, but none of my late wife's relations. She became gouty after her marriage, and it in a great measure destroyed her. I have often thought she received it from me.”

Again, a patient of the author's, now in business, a very gouty man, declares that none of his relations are so afflicted, and that he became so while he was a valet to a gouty gentleman, whose chalk stones he used often to remove, as well as bandage his legs, and give him every kind of attention when helpless from the disorder.

* Provincial Journal.

There is now living in Windsor Forest, a former valet to a well-known nobleman, a personal friend to the three last kings, who is crippled by gout, and who relates that, when he first entered this nobleman's service, who was frequently attacked by gout, he was thus addressed by him:—"J——, have you ever had the gout?" "No, my lord," was the reply. "Then you will have it. I have never had a valet that did not get the gout before he left me," was the nobleman's rejoinder. And although this man was of an excellent constitution, and not hereditarily tainted by gout, lived in a most temperate and careful manner, and has been all his life one of more than common intelligence, and who avoided all excesses, and adopted such regimen as appeared most likely to cause exemption, he yet got the gout.*

§ VI.—*Diseases of the Skin, &c.*

We have received Nos. 2, 3, and 4 of Mr. Erasmus Wilson's beautiful delineations of Skin Diseases, and can only reiterate the opinion expressed in the preceding Report, that they are the most faithful drawings of the kind ever published; and knowing that the profession in this country, compared with its general acquirements, is but little versed in the subtleties of cutaneous disorders, we would add that the possession of these plates will greatly assist the practitioner in mastering the difficulties of their diagnosis.

The majority of the communications of value on this class of diseases which have appeared since our last Report will be found among our extracts in the present Volume. Of such as have not there been noticed, we shall proceed now to give some account.

33. *Classification of Skin Diseases.*—M. Baron has recently published a classification of skin diseases, which he states that he had devised as long as ten years since, but had, from various circumstances, delayed in bringing forward. The classification is based upon an anatomical basis, in some respects similar to that advanced by Mr. Erasmus Wilson, to whom the priority of publication, though, as it would appear, not of conception, must be conceded. The classification is comprised under the following heads:

1st. *Diseases of the vascular apparatus.*—Roseola, measles, scarlatina, erythema, erysipelas, results of the application of a blister, pemphigus, nævus, and purpura. The principal symptom of all these is redness.

2d. *Diseases of the papillæ.*—Urticaria, prurigo, hyperæsthesia, anæsthesia, and elephantiasis Græcorum. The principal character of these affections is a lesion of sensibility.

3d. *Diseases of the sudoriferous apparatus.*—Abundant diaphoresis, eruption of the sweating sickness, sudamina, miliary eruptions, eruptions accompanying colliquative sweats, vesicular eruptions caused by irritating applications, and herpes. Most of these diseases are acute, and generally connected with a morbid state of the whole system. The most striking local symptom is the existence of isolated or grouped vesicles.

4th. *Diseases of the apparatus secreting the epidermis.*—Ptyriasis, eczema, psoriasis, ichthyosis, corns, or warts. The common character of these affections consists in a modification of the epidermic secretion.

5th. *Diseases of the chromatogenous apparatus.*—Lentigo, ephelides both of the hepatic or melanotic description, vitiligo, and albinism. The principal feature here is an abnormal coloration of the skin, which arises neither from congestion of the vascular network, nor from an effusion of blood, nor from the mixture with that fluid of any foreign substance which might give the skin or other tissues a particular tint; nor, lastly, from a decoloration of the blood; but from an alteration in the pigmentary secretion.

6th. *Diseases of the sebaceous follicles.*—Acne disseminata, acne punctata, acne rosacea, melitagra (?), mentagra, impetigo sparsa, and lupus. The principal lesions to be found in these affections are pustules and very rarely tubercles.

7th. *Diseases of the piliferous bulbs.*—Lichen, favus, trichoma, alopecia, canities.

8th. *Diseases of the matrix of nails.*—Onygon, exaggeration in the unguinal secretion.

9th. *Diseases of the fibro-cellular tissue.*—Ecthyma, rupia, varicella, variola, vaccinia, furunculus. These are inflammatory diseases, which rapidly run through their stages. They are all remarkable (excepting furunculus) for presenting a circular and flattened pustule, the central part of which is formed by the epidermis, raised either by pus or purulent serosity; and the circumference by a red margin produced by an elevation of the dermis.

10th. *Diseases affecting different elements of the skin at the same time.*—Scabies.

11th. *Frambæsia, molluscum, &c.*, are so little known, that the author did not think it necessary to determine their actual seat.*

34. *Roseola Punctata.*—This term is applied by Mr. Erasmus Wilson to what he believes to be a rare and hitherto undescribed form of skin disease, and of which he has only seen two cases. The characters are stated by him to be—febrile symptoms of a subacute type, accompanied by redness of the eyes; slight coryza, redness of the fauces, ushering in an exanthem at the end of three days, the exanthem appearing on the mucous membrane and the skin; in the latter, in the form of small red spots around the mouths of the follicles, then becoming diffused, so as to cover the greater part of the body, reaching its height on the third day; at first, of a bright raspberry colour, afterwards acquiring a dull roseate hue; the entire attack lasting ten days, of which three belong to the febrile period, three to the exanthem, and four to its decline.†

35. *Baldness, and its Treatment.*—M. Cazenave attributes baldness to three special causes:—1st. Those which cause atrophy of the bulb of the hair. 2d. Those which suspend its secretion. 3d. Those which induce disease of the hair-follicle, or the surrounding skin. In the first class are referred *congenital and senile alopecia*. The most common form of alopecia, and those for which the physician is most frequently consulted, are those originating in a simple default of secretion of the hair, there being no atrophy of the bulb. The baldness which so often occurs after fevers, during phthisis, &c., is of this kind. We must attribute to the same cause the baldness appearing suddenly as the effect of extreme exhaustion of body or mind, or of intense moral emotion. This head includes, moreover, two forms of alopecia, arising respectively from *syphilis* and *porrigo decalvans*.

By syphilitic alopecia, M. Cazenave understands baldness arising in the course of the venereal complaint, without previous disease of the skin of the affected part. He maintains, and justly, that it is due to the syphilitic poison, and not, as some have averred, to the mercury exhibited to counteract its effect, having frequently seen it in those who had never taken that drug.

The *porrigo decalvans* (alopecia circumscripta) is characterized by more or less circular spots on various parts of the head, entirely deprived of hair, and presenting a white and polished surface. Without previous heat or itching, the hairs gradually fall, until a circumscribed portion of skin is left quite bare. The principal seat of this disease is the back part of the head, the temples, and behind the ears. It occurs at all ages; but is rare in infancy, and is more common in women than men. Its duration extends over a considerable period, never less than several months. As the cure approaches, the spot acquires a redder colour; a light down first appears, and gradually the hair assumes its normal strength and colour.

The third group of alopecias includes, first, those arising from disease of the hair-follicle, as in the baldness following eczema, impetigo, and erysipelas, the cutaneous inflammation of which is propagated to the follicle, and affects the secretion of the hair. The loss of hair consequent on these diseases is not persistent, although the hair rarely recovers its normal thickness. This is more especially the case after obstinate impetiginous eruptions.

In the *porrigo favosa*, there is no destruction of the hair-bulb, but the exit of the hair from the skin is prevented. The hair is twisted and folded on itself, and

* Gazette Médicale, and Prov. Med. and Surg. Journal, June 14, 1848.

† Lancet, Oct. 21, 1848.

the bulb from which it grows becomes gradually atrophied. Hence the persistence of baldness originating in this disease.

The secreting apparatus remaining intact, alopecia may arise from a kind of mechanical destruction of the hair, after its escape from the surface of the skin. It is in this manner that is produced the baldness accompanying lepra, and psoriasis of the hairy scalp. But the most common sources of baldness, occasioned in this way, are pityriasis and ringworm.

Ptyriasis or dandruff is the most frequent cause of baldness in women, and consists in a more or less abundant furfuraceous desquamation. The hair, surrounded and compressed at its exit by cuticular scales, becomes dry, readily breaks, and falls off. The efforts made to remove the disease usually increase the loss of hair, and this simple affection may, in the female, become the source of most poignant grief. According to our author, the cuticular exfoliation of ringworm destroys the hair in the same manner.

Treatment of baldness.—Congenital and senile alopecia, as also that arising from favus, are considered by the author to be incurable. In baldness arising from default of secretion, ringworm, or pityriasis, on the contrary, the hair may be restored as strong and thick as before; but not so in syphilitic alopecia, where the restoration is less perfect.

As a local application, M. Cazenave recommends an ointment made of beef marrow, 30 grms.; tincture of cantharides, cloves, and canella, of each 1 gm. (15 grains.)*

This is applied night and morning, the part having been previously washed with salt water. Repeated shaving and dry rubbing are also very advantageous. When general debility is present, sulphurous baths, with tonics and full diet, are indicated. In *ptyriasis capitis*, it is recommended to interrupt for a time the dressing of the head, and to wash frequently with weak alkaline and emollient lotions. With this treatment an occasional purgative, and the daily use of the warm bath, may be beneficially conjoined.

PART III.—MATERIA MEDICA AND THERAPEUTICS.

36. *Diet and Regimen.*—The important bearing which a knowledge of the principles of human alimentation has upon the prevention and treatment of disease, is a fact willingly admitted by all, professional and extra-professional; but, strange to say, not only is there a very generally diffused ignorance of the properties, relative digestibility, &c., of various articles of dietary consumption, but there is too often met with a total indifference on the subject. Something of this want of attention is probably, on the part of the profession, due to a species of reaction upon the overstrained doctrines of the chemical school, something, too, perhaps to the opinion that a more minute discrimination of prescribed articles of food savours of quackery. Whatever be the cause, certain it is that, in neglecting to acquaint himself with the therapeutics of diet and hygiene, the regular practitioner deprives himself, to say the least, of a most valuable adjunct to his medical resources, and voluntarily surrenders a *ratio medendi*, which, as is proved by the recoveries occasionally seen under the inanities of homœopathy, is capable *per se* of accomplishing the removal of many forms of diseases, more particularly of the digestive organs.

These remarks have been suggested by the perusal of Dr. Robertson's 'Treatise on Diet and Regimen,' the fourth edition of which is now before us, and which will be found to comprise information not only upon every article of food in general use, but upon various other subjects connected with the maintenance of health. The present edition has been so much amplified, that it may be considered as entirely rewritten—a process rendered unavoidably necessary by the rapid additions to physical knowledge which have been made since the first publication of the work, eleven years since.

Our space will not allow us to give a detailed analysis of Dr. Robertson's two volumes. We can only state, in a concise manner, that the first is taken up

* Union Médicale, &c.

with an excellent introductory chapter on the nature and causes of diseases, the sanitary influence of agriculture and civilization in general; and a second, in which the process of digestion are briefly considered, and the whole range of dietetics, with the chemical constitution, comparative digestibility and nutritiveness of each article clearly enumerated. In the second volume, the hygienic influence of muscular exercise, ventilation, climate, clothing, bathing, and occupation, meet with an equally careful consideration; and there is given, in addition, a succinct account of the several mineral waters, with their therapeutical applications.

37. *Therapeutics in relation to Depuration of the Blood.*—Such is the title of the subject chosen by Dr. Golding Bird for his course of lectures recently delivered before the Royal College of Physicians. The author's object in this erudite communication is to point out the advantages to be derived in the treatment of disease from a rational reliance upon the light afforded by the researches of modern chemistry; which he shows to be more particularly applicable to the direction of such therapeutical agencies as have the power of stimulating the emunctory organs to the discharge of the effete matters of the system, or, as he terms it, the depuration of the blood. At the same time that the author does not underrate the importance of the liver, lungs, and skin in the discharge of their several parts of this great process, he shows that the kidneys must be regarded as the organs of the highest consequence, as they not only possess a function which cannot be participated by other organs, but may also, to a certain extent, become compensatory in their action for the failure in the functions of the other emunctories. For this reason, he would extend the principle of medical treatment known as the "alterative" to the kidney, instead of confining it, as is generally done, to the liver, and would call attention to the class of medicines called diuretics, not as mere hydragogues, but as *renal alteratives*.

With this intention, the author announces a fact which he believes never to have been before acknowledged, viz.: that we possess agents, under the term of diuretics, which are able to increase the metamorphosis of tissue, and, at the same time, by stimulating the secretory apparatus of the kidney, to carry the tissue thus metamorphosed out of the body. In taking a practical view of diuretic agents, Dr. Bird divides them into two classes: those which simply increase the quantity of water, and those which act as *renal alteratives*.

To the former class belong all those agents which, out of the body, exert no chemical action on organic matter, and appear to be incapable of increasing the solid matter in the urine, such as copaiba, broom, juniper, squills, &c. In the second series are included those reputed diuretics which exert the influence alluded to, and act as depurating agents. Among them he names the alkalies and their carbonates, and their salts, with such acids as are capable of being converted into carbonic acid in the animal economy; such as the lactates, citrates, and acetates. These, the author thinks, besides increasing the actual bulk of the urine, exert a direct chemical action upon the tissues, and increase the quantity of the solids. That they do so he proves by actual experiment, the results of which he adduces. The author, in conclusion, earnestly recommends a careful trial of these depurating diuretics in the treatment of chronic affections, distinguished by the presence of some product of imperfect organization.*

38. *Medical Treatment of Surgical Diseases.*—Mr. Hunt is engaged upon a series of papers, to which we beg to call our readers' attention, intended to illustrate the great benefit to be derived from the medical treatment of many of those diseases which are commonly thought to be only amenable to the ruder resources of surgical manipulation.†

39. *Anæsthetic Agents—Chloroform—Tests.*—In order to test the purity of chloroform, Dr. Lethby recommends that it should be washed with three or four times its bulk of water, the water being carefully decanted after each operation; four or five times its bulk of quicklime are then introduced into a retort, and carefully distilled in a water or steam-bath. The chloroform thus obtained will

* Lectures on the influence of researches in organic chemistry on Therapeutics. Reprint from Medical Gazette. † Prov. Med. and Surg. Journal, Sept. and Oct. 1848.

be fine, and should exhibit the following properties: 1st, it should be perfectly free from opacity; 2d, its specific gravity should be near 1.496; 3d, it should neither redden nor bleach litmus paper; 4th, it should not become opaque when dropped into water; 5th, it should not be whitened with solution of nitrate of silver; 6th, it should not coagulate white of egg. The last two are regarded as important and easy tests.*

40. *Decomposition of Chloroform.*—Mr. Morson affirms that, under certain circumstances, pure chloroform undergoes spontaneous decomposition, which renders it unfit for respiration. This decomposition appears to be due to the action of the air and light. Free chlorine, hydrochloric acid, and other compounds are formed. These are easily detected and removed. Litmus paper will detect their presence by becoming reddened, and the purification is ensured by repeated washing in distilled water till it ceases to redden litmus.†

41. *Local Anæsthesia.*—The power of inducing local anæsthesia by dipping the affected part in chloroform, or applying externally by means of lint, has been noticed by Mr. Nunneley,‡ Dr. Simpson,§ and others; but as these communications will more properly come under the department allotted to our surgical reporter, we shall here not further allude to them. The first allusion to this method of using chloroform was made in an American journal.||

42. *Therapeutical Employment of Chloroform.*—Inquiries respecting the medicinal employment of chloroform have progressed since our last Report. In *insanity*, it has been used by Dr. M'Gavin, of the Montrose Lunatic Asylum, with more advantage than had previously appeared. In a case of acute mania it calmed the paroxysm, and induced a state of general tranquillity, which conduced much to the patient's ultimate recovery; and in a case of melancholia, with suicidal tendency, the patient was so sensible of its benefits that, when overwhelmed with despair, she would implore the medical superintendent to repeat the exhibition.¶

In *hydrophobia* it has been used twice: in one case it was successful; in the other, which proved fatal, it contributed greatly in assuaging the agonising spasms.

In irritable stomach, in diarrhœa, and in *cholera*, the internal exhibition has been highly lauded; and by inhalation it has produced beneficial effects, which are unequalled by any other of the numerous remedies which have been tried.

43. *Fatal Cases.*—Since our last Report, there have been four undoubted cases of death from the inhalation of chloroform. The first occurred at Cincinnati, U. S., in February last; ** the second at Hydrabad; the third at Boulogne; and the fourth in London.

44. *Naphtha.*—This is another of the many vaunted remedies for cholera, and is said to have been given with great effect in the Russian army. The dose is from ten to twenty drops. The dose was seldom required to be repeated.

45. *Creasote in Erysipelas.*—During a practice of many years, Dr. Fahnestock, of Pittsburgh, has been in the habit of using creasote in erysipelas of the face (as well as of other parts of the body), in both its simple and phlegmonous forms, confining his local treatment to this article alone; and such has been the success of this treatment, that he states he has yet to witness a case which has not yielded to it.

In every case of local erysipelas he immediately applies the purest creasote, with a camel's hair brush, over the whole of the affected surface, extending it some distance beyond the inflamed part, and at the same time administering a dose of calomel, followed by a sufficient portion of jalap, to ensure free catharsis. This, in the majority of cases, is all he finds necessary. But when the mucous membrane of the mouth and fauces is also affected, he pencils those parts with a solution of the nitras argenti, say from half a drachm to a drachm, in an ounce of distilled water.

In the phlegmonous form, it will be found necessary to repeat the application more frequently than in the simple, with the addition of a bread-and-water poultice, applied nearly cold, and well sprinkled with water, strongly impregnated with the creasote, or a cloth, kept constantly wet with the solution, especially for the face.

* Lancet, Sept. 9, 1848, and Medical Gazette, June 16, 1848.

† Pharm. Journ., Aug., 1848.

‡ Braithwaite's Retrospect, July, 1848.

§ Monthly Journal; Lancet, July 22, &c.

|| Boston Med. and Surg. Journ., Apr. 1848.

¶ Report of the Montrose Asylum, 1848, in Monthly Journal. ** Philadelphia Med. Exam.

The creasote, when applied, should cause the parts to become white immediately; if this does not occur, it is not pure. Thus it will be perceived that success depends upon having the best quality of oil. It is worthy of remark that the skin does not become in the least marked by the application, no matter how often it is applied.

46. *Cod-liver Oil, Test of the Purity of.*—Mr. Hockin mixes, on a porcelain slab, four parts of cod-liver oil and one of strong sulphuric acid; when, if it be genuine, a rich violet hue is produced, which in a few moments passes gradually into a dirty-brown colour. This remarkable characteristic, he observes, is not possessed by any other oil, either animal or vegetable.*

We have already alluded to the effects of this remedy in lupus. (See p. 77.) We may state that we have continued to exhibit it in phthisis, with results quite unattainable with any other medicine.

47. *Mercury in Fractional Doses.*—Dr. Fleming has recorded the practice followed by M. Trousseau, of giving fractional doses of mercury, as the $\frac{1}{30}$ th of a grain, instead of the larger quantities usually administered. The dose he gives every hour. Contrary to what might be expected, salivation is rapidly induced, sometimes appearing as early as the end of the first day, and is seldom postponed beyond the third. The advantages of this method of giving calomel are stated to be—1st, the system is brought under mercurial influence as rapidly as by any other plan; 2d, the ptyalism is readily controlled.

In chronic diseases, where it is desired to bring on mercurialism gradually, the same dose ($\frac{1}{34}$ th of a grain) may be given every third or fourth hour, when tenderness of the gums will probably not appear before the fifth or eighth day.

In the treatment of constitutional syphilis, lupus, &c., Hebra, of Vienna, prescribes corrosive sublimate in a similar manner. One grain of the bichloride is dissolved in twelve ounces of water, and of this solution half an ounce is taken thrice daily. In the cases which Dr. Fleming observed of this mode of treatment, salivation presented itself rarely before the eighth day, more commonly about the eleventh or twelfth day.

The merit of having first directed attention to this mode of administering calomel is due to Dr. Law, of Dublin, whose paper on the subject, which appeared in 1839, seems not to have attracted much attention in this country. Dr. Douglas Maclagan has had occasion more than once to verify the statements of Dr. Law.

Dr. Fleming has himself, during the last six months, adopted the practice in about twelve instances with success, in so far as regards the physiological action of the drug. He places in connexion with the above the views of Mialhe on the changes which calomel undergoes in the stomach previous to absorption, and which certainly enable us to understand the *modus operandi* of Law's method of exhibiting calomel. (*Traité de l'Art de Formuler*, p. 5.) It has long been known that, placed in contact with a solution of an alkaline chloride, as common salt, accompanied or not with muriatic or other acids, calomel undergoes a partial transformation into the bichloride and metallic mercury; and as calomel itself is insoluble and consequently incapable of absorption, we must attribute its remote physiological action to this change. The interesting experiments of Mialhe show that the quantity of corrosive sublimate formed bears no proportion to the amount of calomel employed, but is in exact relation to the quantity of alkaline chloride present in the solution. Thus, the quantity of alkaline chloride present in the stomach at any one time, being generally not more than sufficient to convert a very small quantity of calomel into bichloride, it is immaterial, in so far as absorption is concerned, whether one grain or one drachm of calomel is administered, as in either case the quantity of bichloride formed is the same. The frequent administration of small doses, as in Law's method, has the advantage of exposing the calomel to the action of a large quantity of the gastro-intestinal fluids.

According to this view, the exhibition of common salt with the calomel ought to increase its activity in a marked degree, and perhaps the cases of so called idiosyncrasy, where a small quantity of chloride has given rise to severe salivation, may find this circumstance a rational explanation. On the other hand, the changes in chemical composition which the gastro-intestinal fluids undergo during disease will modify powerfully the action of calomel.†

* Pharmaceutical Journal, Sept. 16.

† Monthly Journal.

At a meeting of the London Medical Society, Mr. Hancock mentioned two cases in which he had adopted the above method of giving calomel. In one case he gave $\frac{1}{20}$ th gr. every hour, in the other, the same dose every three hours. In the first, salivation ensued at the end of thirty-six hours; in the second, at the end of forty-eight. The ptyalism was milder, and the bowels were not disturbed.*

48. *Tartar Emetic, Injurious Effects of*.—In a paper on the therapeutic value of tartar emetic in pneumonia, the evidence of which, especially in the first stage of the disease, is generally admitted, Dr. Peebles mentions its occasional influence in retarding convalescence, by inducing a state of system analogous to that observed in scurvy. He narrates three cases, in which uncontrollable epistaxis, spongy gums, &c., declared themselves at the ordinary date of convalescence, and which, in two instances, proved fatal.†

49. *Hydriodate of Iron and Quinine*.—Mr. Battley has introduced a new medicine under the above name. The merit of its composition consists in the fact that the iron exists in the form of a protosalt. The iodine also being in the state of hydriodic acid, acts more mildly than the tincture and its other compounds. The preparation is a syrup, as sugar is necessary to prevent the conversion of the protosalt of iron into the peroxide. The proportions are such that each fluid drachm contains one grain and a half of quinine, one grain of iron, and one grain of iodine as hydriodic acid. The dose is from twenty to thirty drops.‡

50. *Turpentine in Hemorrhages*.—Dr. Percy, § of Lausanne, writes to recommend the use of turpentine in various hemorrhages, but does not seem to be aware that it is in very common use in this country in such cases. [A more intimate acquaintance with the progress of medical science, as it is exhibited in this Journal, would be the means of preventing many writers from obtruding as novelties, opinions and modes of treatment which, to the practitioner who keeps pace with the literature of the day, are as familiar as household words.]

51. *Bismuth in the Diarrhœa of Phthisis*.—Dr. J. Thompson considers the trisnitate of bismuth to surpass in efficacy and safety our most approved remedies for this complaint. He has taken every opportunity, during the last twelve months, of testing its powers, and has preserved notes of twenty-one of the cases in which it was administered. Of these eighteen were of phthisis in various stages of progress, and three, bronchitis. In fifteen of the patients the diarrhœa was entirely removed; in four, transient benefit was experienced; and the remedy proved useless only in two instances. The dose administered was about five grains three or four times daily, usually combined with a little magnesia and gum arabic. Dr. Thompson has referred to various authors who have written respecting the properties of bismuth, without being able to collect from them any evidence of its powers in the phthisical variety of diarrhœa, but he entertains a strong conviction of its peculiar appropriateness to this affection, and has obtained important confirmation of his experience in a recent communication from Dr. Lombard, of Geneva.

52. *Indian Hemp—its Active Principle*.—M. de Courtive has presented to the School of Pharmacy, Paris, a thesis on the *Cannabis Indica*, which attracted considerable attention. His inquiry was directed to it by the effects he noticed it to produce upon the lunatics in the Bicêtre. He has submitted the cannabis to analysis, procuring the plant from Algiers, or from Indian seeds reared in France. The active principle he states to reside in a resin, which he extracted by a complicated process of maceration and the action of alcohol. From nine to ten parts of this resin were procured from 100 parts of the plant, the larger proportion being furnished by the Algerine drug. He wishes to call the resin *cannabina*; and states that one grain and two-thirds, or even, in some temperaments, half that quantity, produced an equal effect with half a drachm of thick extract.

An alcoholic extract, obtained directly from the plant, may be advantageously employed; but double the quantity must then be used at a dose, since the active principle is more mixed up with inert matters.

* Reported in Medical Gazette, Oct. 13, 1848.

† American Journal of the Medical Sciences, May, 1848.

‡ Medical Gazette, May 12.

§ Dublin Medical Press, Aug. 1848.

M. Courtive has experimented similarly with the *cannabis sativa* of Italy, and has thence extracted an active resin, which, however, requires to be given in four- or five-grain doses to produce an effect. He considers the differences between the *cannabis Indica* and the *cannabis sativa* to be insufficient to distinguish them as different species; and in this he agrees with Dr. Royle and others.

The resin extracted the author describes as deep greenish-brown; of an aromatic yet nauseous odour; of a hot, acrid, and enduring taste; soluble in cold ether, alcohol, and volatile oils; insoluble in water and dilute spirit. It would appear to contain some fatty matter and chlorophyle.

The leaves are looked upon as the most active parts of the plant.

53. *Atropia, Therapeutic Agency of.*—*Atropia* is the name given to an alkaloid which represents the active principle of belladonna. It crystallizes in white prisms, is very soluble in alcohol and ether, but not so in water. It is an energetic poison, one sixth of a grain being sufficient to produce the toxic effects of belladonna. As it is an expensive article, and therefore very liable to be adulterated, Mr. Donovan has prepared a process by which it may be obtained pure. He recommends that a drachm of the commercial *atropia* should be dissolved in an ounce of rectified spirit. If there be a residuum, it is to be separated; then add six ounces of distilled water, and shake the mixture. No change appears at first, but after twelve or eighteen hours the *atropia* crystallizes into beautiful stellated groups adhering to the sides of the vessel. These, after pouring off the liquor, are collected on bibulous paper, and dried.

Bouchardat exhibits *atropia* internally, in those diseases in which belladonna has been found useful; as epilepsy, pertussis, &c. He begins with $\frac{1}{12}$ th gr., increasing gradually to $\frac{1}{8}$ th. For external use, the watery solution of eight grains to an ounce is the best. M. Cuvier* has by this succeeded in breaking up old adhesions of the iris, after several weeks' daily application.

54. *Nux Vomica as a Purgative.*—Mr. Boulton, of Bath, suggests, in the 'Provincial Journal,' the addition of a small portion of the extract of *nux vomica* as a remarkably powerful adjuvant to purgatives. He says, "I ascertained that an aperient scarcely sufficient by itself to produce a single evacuation, when combined with this extract, caused active purgation. The dose must be varied according to the patient's idiosyncrasy; but, generally speaking, a pill, containing three quarters of a grain of Barbadoes aloes, three quarters of a grain of the extract of rhubarb, and half a grain of the extract of *nux vomica* (Pharmacopœia Edinensis), if taken at bedtime, will produce one, or perhaps two, full evacuations the following morning. The addition of a single grain of calomel to this pill will cause two or three bilious motions.

[There is no novelty in this. We have, for some years, been in the habit of combining strychnine with an aperient extract with considerable advantage in habitual constipation.]

55. *Stramonium as an Emmenagogue.*—Dr. Jones, of St. Louis, U. S., speaks confidently of the emmenagogue properties of stramonium, believing it to possess a power of altering the secreting functions of the uterus to a degree not found in other so-called emmenagogues. He gives a case in illustration, which, however, is anything but conclusive.†

56. *Therapeutic powers of Galvanism.*—Confirmation of therapeutic powers of Grapengiesser's method of applying galvanism by plates of silver and zinc, united with a copper wire (vide Abstract, Vol. VI, p. 73), has recently been afforded by Mr. Wells, who details the results of this treatment in the Civil Hospital of Corfu. The cases in which its efficacy has been tested are—ulcers, 30 in number; fistulæ, 5; fungous growths, 5; nervous disorders, 5. The conclusions which arise out of his observations are these:

1st. That to secure the good effects of the apparatus, the surfaces of the plates must be perfectly smooth and clean, and each must be applied to a spot previously denuded of cuticle; thus, when the effect is required upon one open surface, a small puncture must be made at some other spot, to form the second.

* Annales d'Oculiste, 1847, and Monthly Journal.

† Philadelphia Examiner, May, 1848.

2d. Experience has proved that one of these surfaces must be above the other, and the zinc plate must always be on the uppermost.

3d. When the zinc plate is placed on a slight excoriation, and the silver one upon a suppurating surface, the excoriation is in two days converted into a superficial eschar, an inch in circumference. In six days the slough will have extended to the cellular tissue, and present all the appearance of an eschar from caustic potass.

4th. When an ulcer presents an indolent or lardaceous base, it is destroyed by the application of the zinc plate for three days, and healthy granulations arise. Fungous or exuberant granulations are acted upon in the same way.

5th. When the silver plate is applied to a surface simply denuded of skin, the zinc being placed above, on another such surface, even although the former be freely suppurating, it is very rapidly dried, and covered with a dense pellicle.

6th. When the two plates are similarly applied, the surface beneath the silver being a deep ulcer, rapid and healthy granulation follows. If the silver plate be left upon the granulating surface, after this has reached the surface, these become exuberant and flabby. In practice, therefore, the apparatus should be removed as soon as the granulations reach the surface, and when this is done, spontaneous cicatrization follows.

7th. When the silver plate is applied upon the superior portion of a very large ulcer, this portion only improves in appearance, while the inferior portion degenerates; but if the plate be applied upon the lower portion only, the whole surface of the ulcer improves equally. *

8th. In cases where several ulcers exist upon a limb, and the zinc is applied to a superior, and the silver to an inferior one, or to denuded surfaces, all the ulcers situated in a direct line between the two plates improve in appearance, become healthy sores, and cicatrize, while those on either side of the current remain unaltered, and sometimes degenerate.

9th. When the silver plate is applied upon the extremity of a fistulous sore, but little effect is produced; while, if a projecting portion of the silver be carried to the bottom of the fistula, granulation rapidly follows. To fulfil this object, Dr. Cogevena has silver plates perforated by screws of the same metal, the points of which are adapted to the shape of the fistula, and readily projected more or less by a simple turn of the screw. The application in these cases need not be more than a few days; for as soon as healthy granulation commences, the apparatus may be removed, and cicatrization rapidly succeeds.

10th. In several cases normal innervation has been restored in paralysed parts under the use of this apparatus, the zinc being placed superiorly, and the silver inferiorly, so as to include, as nearly as possible, the whole of the paralysed part. Disordered function of particular nerves has been also remedied by so placing the two plates that the nerve lies between them.

12th. The action of the zinc plate is an excellent substitute for the common moxa, and for the caustic potass when obliteration of a vein is denied. In some cases of varicose ulcer, while the silver plate has been used to hasten cicatrization, an eschar has been purposely formed by the zinc over the dilated vein above, in order to obtain a radical cure; and these objects have been readily effected.*

—In a paper on the same subject, Mr. Hinton does not give so favourable an account of the action of the galvanic plates. He notices that the scar left by the slough has a very uneven surface, and would not be tolerated in many cases.†

* Medical Gazette, May 26.

† Ibid., July.

II.

REPORT ON THE PROGRESS OF SURGERY.

BY HENRY ANCELL, ESQ., M. R. C. S.

1. THE discovery of Gutta Percha, of Collodion, or the American adhesive fluid, and of Hydrated Cotton as a remedy for deafness occasioned by perforation of the membrane of the tympanum, will be regarded as among the most interesting novelties recorded in our present Volume. A considerable number of very valuable surgical papers have been laid before the profession since the period of our last Report. The 'Transactions of the Medico-Chirurgical Society of London,' in particular, contains some of the most important; and we regret that, in consequence of the extent of our extracts, and a general index, we shall be enabled to furnish our readers with but a very partial extract, particularly of those which have been recently published.

2. GUTTA PERCHA.—This remarkable substance has been for some time past in the hands of the profession, but we abstained from noticing it until we met with some general statement of its employment in surgery; the paper by Mr. Lyon, of Glasgow (art. 60, p. 150), has furnished us with the opportunity; and we have now only to refer our readers to our copious extracts therefrom, and to request them to consider the physical qualities of the material, that they may be apprised of its extensive utility, and with these data every surgeon will be enabled to judge for himself as to the cases in which it ought to be preferred to splints, starch bandages, and other contrivances; we shall only further state, in this place, that, in our own practice, we have employed it in several severe cases with the greatest advantage, and that our experience, to a considerable extent, confirms the account given by Mr. Lyon.

3. COLLODION.—The interest of our journal will be increased by the account we are about to give of another extraordinary discovery, for which we are indebted to our transatlantic brethren, and which, in the opinion of those who have been the first to introduce it to the profession, bids fair to produce another great advance in practical surgery,—we allude to the new American adhesive fluid (art. 49, p. 137). As remarked by the 'Boston Medical and Surgical Journal,' "one achievement prepares the way for another, and we are again taken by surprise with a new preparation, being a solution of cotton in ether." Of its adhesiveness not a shadow of doubt can be entertained; nothing, however, will compare with it in this respect, and it is thought that an entire change in the mode of dressing wounds will follow.

Professor Schonbein appears to have shown, in the first instance, the solubility of gun-cotton in sulphuric ether, and C. T. Jackson, remarked upon this solution, and exhibited specimens of it before a Natural History Society in America, in December 1846, or January 1847, illustrating its use as a brilliant varnish. Dr. H. J. Bigelow, soon afterwards, prepared a bottle according to Dr. Jackson's directions, and, while employing it as a varnish, accidentally smeared it on a fresh wound on the finger. The smarting produced called his attention to the wound, and he endeavoured immediately to rub it off, but it had dried nearly instantaneously, and remained on, the smarting soon ceased, and when the film was removed union had taken place. Since this time Dr. Bigelow has employed it as a dressing for wounds, especially those which it is desirable to unite rapidly by the first intention. The following are the properties of the fluid upon which its surgical application depends:

1st. By its powerful contraction, upon evaporation, it places the edges of an

incised wound in much more intimate contact than is obtained by sutures and adhesive cloth—unites them by equal pressure throughout the whole extent of the wound, and maintains them immovably fixed.

2d. It preserves the wound perfectly from contact with air—being impermeable to the atmosphere, while its adhesion to the skin is so intimate as to preclude the possibility of the air entering beneath its edges.

3d. The substance remaining in contact with the skin and wound after the evaporation of the ether, seems to be entirely inert, so far as any irritating property is concerned, and this can hardly be said of any resinous adhesive cloth or preparation.

4th. It does away with the necessity for sutures in incised wounds of almost any extent.

5th. It is sure to remain in intimate contact with the skin until union is complete—and being quite impervious to water, and presenting a polished surface, it allows the surrounding parts to be washed without regard to the wound or dressing.

6th. It is colourless and transparent, thus permitting the surgeon to witness all that goes on beneath, without involving the necessity for its removal.

7th. No heat is necessary for its application, and the presence of any moderate degree of cold is only objectionable in retarding the evaporation of the ether.

8th. It may be made at a trifling cost—an ounce phial, intrinsically worth little, being sufficient for a great number of dressings.

It is not incised wounds alone which are amenable to its use, though the mode of its application to a stump, or an ulcer, or any wound involving an extensive loss of skin, must be modified.

It is of the first importance that this preparation be properly made and applied. The process for the application is very simple.

For straight incisions, of *whatever length*, provided the edges can be brought together without great difficulty, it is better to apply the solution in immediate contact with the skin, as follows. The bleeding should be arrested, and the skin thoroughly dried. If the lips of the wound are themselves in contact, the surgeon has only to apply a coating of the solution lengthwise over the approximated edges by means of a camel's hair pencil, leaving it untouched after the brush has once passed over it till it is dry, during, perhaps, ten or twenty seconds. This first film will of itself have confined the edges together; but in order to increase the firmness of the support, more must then be applied in the same manner, allowing it to extend on either side of the incision half an inch or more. If, however, the wound gapes, an assistant is required to bring the edges in contact, and retain them so whilst the application is made. If the incision is so long that the assistant cannot place the edges in apposition throughout the whole extent, begin by covering a small portion at the upper end, and apply the solution to the lower parts as fast as it becomes dry above. In this case something more than the film which is left adherent to the skin will be necessary for a safe and proper support to the wound, which may have a tendency to separate. The transparency of the dressing may be still maintained by adapting a piece of gold-beater's skin, or oiled silk, to the wound. This should be covered with the solution, and the membrane applied after the coating is on and already contracted. A dossil of lint, or a strip of cloth, or even a piece of tissue paper, which is thus rendered tough and waterproof, will answer the same purpose, though not transparent. Where there is much separation, it is better to fortify the wound in this way at once, and as fast as the first coating is applied and dry.

In dressing the wound left by the removal of the breast, the preparation may be applied in the same way. If, however, adhesion by first intention be not desired, the gum may be painted on in transverse strips, like adhesive cloth, letting the first strip dry, and giving it the gold-beater's skin support before the second is applied. Thus room is left for the escape of pus, and the exposed portion may be watched without removing the strips.

As a dressing after the operation for hare-lip, or cancer of the lip, where union by first intention, and a narrow linear cicatrix are so desirable, this answers particularly well. The use of one or two sutures to the mucous surface is not

obviated, as the solution will not adhere to the moist epithelium, or to a surface secreting mucus, with sufficient certainty. But this does not interfere at all with the satisfactory result upon the cuticle, as the skin will be probably united before the necessity for removing the sutures arrives.*

In operations for the restoration of parts, as, for instance, the nose, where union by first intention is important, there is no reason to doubt that it would succeed perfectly, as it fulfils so entirely many of the requirements for such union. The same of all plastic operations; and a drop placed upon a small cut, or the puncture of a subcutaneous operation, seals it hermetically.

In dressing an ulcer, where there is, of course, a loss of soft parts, it is better to apply it through the intervention of some medium. A strip of cloth or gold-beater's skin is to be cut of sufficient length, and the two ends covered thickly, an inch or more, with the solution. This strip is applied like a strip of adhesive cloth, so that the middle of the cloth, where there is none of the solution, shall come over the ulcer. After all the strips are applied, the air may be excluded by painting the cloth upon the outside over the ulcer with the solution. The same contraction goes on in drying, and so approximates the edges of the ulcer, and gives it firm support.

The momentary pain arising from the direct application of the ether to an incised surface, which is extremely acute, may be, in a great measure, prevented by the intimate apposition of the edges of the wound. Again, this stimulus is brief, and probably more than counteracted by the refrigerating influence of the evaporating ether. There are undoubtedly cases when such a stimulus would prove beneficial. It is even possible that the rapidity of the union which takes place under a coating of this gum, may be due, in part, to the influence of this stimulus.

Dr. Bigelow mentions some of the surgical uses of the solution of gun-cotton, unconnected with the dressing of wounds. It may probably, he states, be applied instead of starch to a bandage enveloping a limb. Here, again, its power of contraction is a desideratum, as a snug casing is generally desired, and the force is exerted equally. Perhaps the limb may be immersed in the solution without the intervention of the bandage. Several coatings will here be required. Its use as a means of rendering pasteboard splints impervious to water has been suggested by Dr. H. J. Bigelow; and a hundred other applications may be made of it at the bedside by the surgeon, who knows its nature and qualities. The pathologist, with his abrasions thus protected, may enter the inflamed peritoneal cavity with impunity, or examine fearlessly the products of inoculate lesions. In dissection, hang-nails, sores, or abrasions of any kind, will be thus fully protected.

Dr. Payne, dentist, Montreal, appears to have suggested the use of the collodion in burns,† and Dr. Crawford, of the same city, employed it in the case of a young gentleman who met with a severe burn of the face and hands. The burn thus treated was covered with a thin glazing, or varnish, which completely excluded the air. The pain almost instantly subsided, and if the exclusion of air be the chief desideratum in such cases, this remarkable fluid will more conveniently and effectually produce it than any other remedy. Its utility in burns has been confirmed by other practitioners.

4. THE HYDRATED COTTON, as a remedy for deafness, with the cases to which it is applicable, and its mode of application, are so fully described in the copious *résumé* of Mr. Yearsley's pamphlet, (art. 45, p. 98), that it is unnecessary to do more, in this place, than refer to the extract.

5. IMPERMEABLE SPONGIO-PILINE.—In addition to these discoveries, another substance newly introduced into surgical practice by Mr. Markwick, although a patented article, merits notice. It is a fabric composed of wool and sponge felted together, and then rendered impermeable at the back by means of a coating of Indian rubber. It is stated to possess all the requisites for an efficient and unobjectionable poultice or fomentation cloth, retaining for many hours the essential qualities of warmth and moisture; all that is necessary being to soak it well in hot water, then press out the fluid, and confine the moist spongy surface, as hot as the patient can bear it, closely on the part affected, by means of a linen roller or a

* The Boston Medical and Surgical Journal.

† The British American Journal, Aug. 1848.

handkerchief. Its effects are said to be delightfully soothing and effectual. Its superiority over ordinary poultices and fomentations is testified to by Dr. Conquest, Dr. Basham, Dr. Badeley, and Mr. S. Burman. Mr. Markwick has also patented a beautifully soft waterproof woollen fabric, called simply *Impermeable Piline*, to be used as a covering for the chest, knees, and other parts of the body in rheumatism, neuralgia, and other affections; which is said to be by no means a less useful invention than the former.* It may be employed as a means of applying liniments, &c., and is made up as knee or shoulder-straps, chest protectors, anklets, lumbago bands, socks, gloves, and in many other forms.

Although these discoveries and inventions may not answer all the expectations of those individuals to whom the profession are indebted for them, or those who have been the earliest in the field to test their application, they must be regarded as very important additions to the resources of surgery; we have no hesitation in saying they are calculated, in a very material degree, to promote the great desideratum—simplicity in the treatment of surgical cases.

6. ANÆSTHETIC AGENTS.—The periodicals of different countries have teemed, since our last Report was printed, with cases and observations on the use of these agents, but the most important circumstances recorded are several fatal cases, occurring suddenly after the administration of *chloroform*, and some interesting papers on Local Anæsthesia.

The following are the fatal cases in question, in addition to 1, that of Mary Greener, recorded in our last Volume (p. 191):

11. Mr. W. Badger, æt. 22, whose father stated that he had always been in good health, but it appeared that he was subject to palpitation after violent exertion. He sat down on a chair, in the surgery of Mr. Robinson, an eminent dentist in London, for the purpose of having some stumps of teeth extracted; before he had taken six inhalations he said that the chloroform was not strong enough—he was laughing and talking; in a moment afterwards his hand dropped from the part of the chair whereon it was resting, then his head, and he never spoke or moved afterwards; the witnesses affirmed that he had not inhaled the chloroform one minute, and he was not more than five minutes in the surgery until his death. About a drachm and a half of chloroform was used altogether. At the time of death the face was livid, pupils dilated, temperature of the body lower than natural, and on attempting venesection only a small quantity of blood could be obtained. On post-mortem examination, the heart and liver were found extremely diseased. The heart was pale and flaccid, and its parietes attenuated, and its tissue interspersed with “fatty degeneration;” the mitral valves were unequal, and slightly rugose; the liver was fatty, preternaturally large, weighing eight pounds, and encroached upon the chest. The broad feature of this case is, that an individual appearing to enjoy good health, although affected with extensive disease of the heart and liver—a circumstance by no means unprecedented—died in the period of one minute under the influence of chloroform, introduced into the blood by inhalation.†

111. The third is a case of a young lady, æt. 30, who had recently suffered from chlorosis and palpitations. She was affected with an abscess in the right thigh, supervening a wound. Dr. Gorré, surgeon of the hospital at Boulogne, employed about a teaspoonful of the chloroform in a handkerchief; immediately on respiration of the vapour, the patient first became agitated, and moved her hands convulsively, and she was soon motionless and unconscious. Dr. Gorré then made an incision into the abscess; after he had done so, he heard one or two deep and laborious inspirations, and seeing no further signs of *returning* animation or consciousness, he examined more particularly, and found every appearance of life extinct. During an hour a movement, or pulsation, was observed in the course of the jugular veins, and several fruitless attempts at resuscitation were made. On post-mortem examination, abundant bubbles of air were found interspersed with a pale red fluid in the cerebral veins, the jugular veins contained air and no blood, and the veins of the left lower extremity contained air and blood; there was a considerable quantity of bloody serum in the left side of the chest, and in the pericardium; the heart was fat, large, flaccid, empty, and collapsed; the skin was of an alabaster

* Medical Times.

† Lancet, July 8.

whiteness, and the blood throughout the body fluid, and as black as ink. The stomach contained a considerable quantity of half-digested food. Drs. Rouxel and Gros reported to the Procureur de la Republique that death was the consequence of syncope, produced by the suspension of the cerebral functions under the anæsthetic influence of chloroform, rendered more readily fatal by the abnormal organic condition of the heart, that in all probability the air in the veins was produced spontaneously, as in some of the cases of sudden death recorded by Morgagni, and that this might have rendered the death from chloroform more sudden and inevitable.*

iv. The fourth case, which, in point of time, should have preceded the other, is that of Mrs. Simmons, a nervous woman, æt. 35, who inhaled the chloroform at a dentist's. She took the vapour from a Morton's inhaler, breathing at first slowly; she inhaled 12 or 15 times, occupying from 60 to 75 seconds; the face was at first pale; at the expiration of the above period four roots of teeth were extracted, the patient groaned, and manifested what the female attendants considered evidences of pain, although she did not speak; as the last root came out, which was about two minutes from the commencement of the inhalation, the patient's head turned to one side, her arms became slightly rigid, and her body drawn somewhat backwards; at this period the female attendant, placing her finger on the pulse, found it feeble, and it immediately ceased to beat; respiration also ceased about the same time, and the face and finger nails now became livid, the lower jaw drooped, the tongue projected at the corner of the mouth, and the arms were perfectly relaxed. The most persevering efforts were made to resuscitate her; ammonia, cold-water affusion, mustard, brandy, &c., were first employed. Medical aid was obtained about 36 minutes after respiration had ceased, when artificial respiration, electro-magnetism, and external stimulants were resorted to. The electro-magnetism caused active muscular contraction, but had no effect upon the heart; and some slight removal of the lividity of the countenance was produced by the artificial respiration, but not the slightest sign of life was manifested; one of the dentists present thought life was extinct in about five minutes, another says about ten minutes. On post-mortem examination, 26 hours after death, bloody froth was found issuing from the mouth; two or three ounces of fluid blood, intermixed with bubbles of air, flowed from the sinuses of the dura mater, and there was a larger quantity of blood than usual in these vessels; a small quantity of bloody serum was contained in the pericardium and pleuræ; the heart was flaccid, and all its cavities entirely empty, and their inner membrane deeply stained; the aorta, pulmonary arteries, and cavæ within the chest were empty, and a very small quantity was found in the abdominal vena cava; the lining membrane of all these vessels being deeply stained. The kidneys were congested, the liver pale, and empty of blood, the stomach and intestines distended with gas; the blood was fluid as water in every part of the body; not a coagulum to be seen in any vessel; under the microscope the globules appeared altered somewhat in form, some were irregular in shape, and they appeared generally distended, and more globular than normal; they were also somewhat fragmentary, a part apparently having been ruptured, and their number somewhat diminished; the colour of the blood, in many parts of the system, was that of dark venous blood.†

v. The fifth case has been reprinted in the journals from Allen's 'Indian Mail' of July 4; it occurred at Hyderabad, in Scinde. A drachm of chloroform was administered to a young woman, of an apparently healthy constitution, by means of a pocket-handkerchief; a few convulsive movements occurred; when these subsided, the surgeon made the necessary incision for the amputation of a finger, which occupied only a few seconds, and scarcely a drop of blood escaped; she was then placed in a recumbent posture, with her head low, to bring her out of the state of coma into which she had apparently fallen; artificial respiration and other means were resorted to for five hours, but she never breathed again. The operator states that he thinks death was instantaneous, for after the convulsive movements above mentioned, she never moved, nor exhibited the smallest sign of life. No post-mortem examination was made.‡

* Lancet, July 24.

† The Western Lancet and Hospital Reports, March, 1848.

‡ Lancet, July 22, p. 99.

vi. Dr. An*erson, of Birkenhead, allowed a dentist to administer chloroform to him, prior to extracting a molar tooth, on Friday, March the 10th. The rest of the day he felt much excited, and experienced a "peculiar rushing of the carotids." He had suffered from pectoral symptoms for some time previously, and on the day following the inhalation, had burning pain in the back of the chest; about 11 o'clock at night, hemorrhage occurred from the lungs, of which he considered the chloroform the exciting cause. Measures appropriately active were resorted to by his medical attendants. The hemorrhage returned twice in the following day, and again on the 13th and 15th, when it resulted in fatal syncope. The opinion given to the coroner by Dr. Robertson in this case was, "that the deceased died from natural causes, and not from the effects of chloroform;" the opinion of Mr. Macdougall was, "that the deceased most probably suffered from tubercles of the lungs, and that the exciting cause of the hemorrhage was the inhalation of chloroform."*

vii. The seventh case is recorded in the following statement to the Academy of Medicine, made by M. Robert. A young man, twenty-four years of age, very corpulent, but of a sluggish, lymphatic constitution, was admitted into the Hôpital Beaujon on the 25th of June last, wounded in the left thigh by a ball, which had entered anteriorly, and passed out behind, injuring greatly the limb. The disarticulation of the thigh was decided on. The patient was placed under the influence of chloroform. In three or four minutes after the commencement of inhalation, convulsive movements characterised the stage of excitement, which were soon succeeded by complete insensibility. M. Robert immediately commenced the operation, and the patient scarcely lost a drop of blood. When, however, the first incisions were made, for an instant the patient appeared to show signs of returning sensibility, and M. Robert ordered the chloroform again to be inhaled. Hardly had a quarter of a minute elapsed before the respiration became stertorous, at which moment the apparatus for inhaling was removed; the face and lips turned deadly pale, the pupils of the eyes became dilated, and turned upwards under the lids. The operation, of course, was immediately suspended, and M. Robert, with his assistants, did all in their power to restore the patient, whose breathing was now become short. The pulse was, however, perceptible, but the limbs were completely relaxed. Frictions on the skin were immediately used, the pituitary membrane was irritated, and the arms and chest stimulated. Frequently the respiration appeared about to be renewed, and the pulse appreciable; but these favourable symptoms were only momentary, and, after three quarters of an hour's incessant efforts of the surgeon and his assistants, it was found that no symptoms of returning life were manifested.

M. Robert was inclined to think that the condition of the wound under which the patient laboured, producing a great shock to the nervous system, such as usually attend gunshot wounds when inflicted on important joints, and the moral disposition of the patient, all tended to produce the fatal result.†

viii. We observe a notice of the death of Mr. Carruthers, a gentleman of fortune, who lost his life from the incautious application of chloroform; he was affected with asthma, and had frequently obtained relief from the agent. He was found dead in the morning, sitting at a table in the same position the servant had left him the preceding night, with the chloroform and handkerchief before him. We have not at present seen the account of this case in the medical journals.‡

In appreciating the importance of the above cases, we are bound to take into the account the fact of their occurrence at a period when anæsthetic agents were *sub judice*, and that the total number of deaths recorded constitutes a very small proportion indeed of the numbers of individuals who, during the period in question, have been subjected to the anæsthetic influence. Mr. Robinson states that he had employed the agent between *three and four thousand times*, before the fatal case occurred which is the first in the above list. It is not to be concealed, however, that injurious results, short of death, sometimes occur. For instance, Mr. H. Popham relates the case of a young lady, apparently in perfect bodily

* Lancet, July 22.

† The Medical Times, July 22.

‡ The Times, Nov. 12, from the Carlisle Patriot.

health, but of "a nervous and excitable temperament," in whom chloroform produced convulsions and the recurrence of a paroxysm of insanity;* and the author publishes the case, to show the necessity of ascertaining, before we venture upon giving it, "that the brain be free from disease." Thus, the facts before us seem to imply that the *heart, lungs, and brain* must be in a *physiological* condition, before we can administer chloroform with perfect safety. The case of Mrs. Simmons especially, indicates that the *Temperament of Civilization* (the nervous temperament), at all events when highly marked, must be regarded with distrust in reference to the production of more or less complete anæsthesia. These cases justify our remarks upon the subject in our last Report,† and the general principle there developed will be found to comprise the means of avoiding the most deplorable consequences. We should not convey to our readers the actual state of this great question, if we omitted to mention that Dr. Simpson continues the general—nay, almost universal—employment of chloroform; he has just published another elaborate paper‡ containing, with other interesting matter, "the Results of the Practice of Anæsthesia in Midwifery." Dr. Simpson delivered about 150 patients in this artificial state; he has not met with a fatal result, nor does he admit of any injurious effects having been produced either in the mother or child; his paper contains also reports from numerous accoucheurs, the tenor of the whole being most favorable to the practice. We were inclined, in the first instance, to attribute Dr. Simpson's success to the *visus et tactus eruditus*, by which he is enabled to reject that small number of individuals in whom a state of anæsthesia, produced by chloroform, would be death, and by which he is enabled to regulate its action safely; but it does not appear that he makes any discrimination of cases, and, according to the last paper, his experience appears to be supported by that of many other individuals. The most remarkable circumstance is, then, that the evidence at present before us of the effects of anæsthesia in the parturient state, is opposed to that which applies to anæsthesia in general surgery, and the profession must necessarily await the extension of its statistics before it can arrive at a definitive judgment upon the whole question. (See Midwifery Report.)

Local Anæsthesia.—Dr. Simpson some time ago published a paper, to show that the production of a state of general anæsthesia, before the performance of surgical operations, is not an idea of modern times.§ We have received an essay from the same gentleman, in which he states that the ancients seem also to have entertained the idea of producing a state of *local* and limited anæsthesia in the part to be operated upon; in illustration of which fact Dioscorides is quoted. More than half a century ago, Moore ingeniously proposed to effect a local anæsthesia of any limb that was to be operated upon, by previously compressing, with tourniquets and pads, the nervous trunks going to the limb, and the plan was tried under John Hunter, with but partial success, upon a patient at St. George's Hospital, London. Dr. Simpson proceeds to relate experiments performed by himself, 1st, upon the lower animals; and, 2dly, upon man; with a view to the possibility of the production of such a state of local anæsthesia, by the local application of chloroform, or other anæsthetic agents, to individual parts of the body, and has arrived at the following conclusions:

1st. In animals belonging to the class of *Articulata*, complete local and limited anæsthesia can be produced by the local and limited application of the vapour or liquid of chloroform to individual parts of the body of the animal.

2d. In *Batrachian Reptiles*, the tail, or an individual limb, can be affected in the same way with local anæsthesia, by the local application of the chloroform; but, in addition, general anæsthesia of the animals usually results in a short time, in consequence of the chloroform absorbed by the exposed part coming to affect the general system.

3d. In the smaller *Mammalia*, a single limb, or even the whole lower or pelvic half of the body, can be rendered anæsthetic by local exposure of these parts to the influence of chloroform.

* *Lancet*, August 5.

† Half-Yearly Abstract, Vol. VII, p. 202.

‡ *Monthly Journal*, Oct. 1848, p. 209.

§ *Monthly Journal of Medical Sciences*, 1847-48, p. 451.

4th. In the human subject partial, and perhaps superficial, local anæsthesia of a part, as the hand, can be produced by exposing it to the strong vapour of chloroform; but the resulting degree of this local anæsthesia is not sufficiently deep to allow the part to be cut or operated upon without pain.

5th. Any agent possessing a stronger local benumbing, or an anæsthetic influence, would probably be dangerous, by its acting too powerfully on the general economy, before the local anæsthesia was established to a depth sufficient for operating.

6th. Artificial local anæsthesia, from any known anæsthetic agents, seems objectionable in any part intended to be operated upon, in consequence of the vascular congestion and injection which attend upon and accompany this local anæsthesia.

7th. There are few operations in which there is not previously a local broken surface; and the application of chloroform, &c., to such a surface, would be far too painful to be endured, no small degree of suffering sometimes arising from even the exposure of the unbroken skin to their action.

Dr. Simpson's paper is of the more importance since Mr. Nunneley, of Leeds, has performed some interesting original experiments, to prove the *value* and *safety* of the local application of anæsthetic agents.* Mr. Nunneley states, that either by *immersion* in a small quantity, or by the *vapour applied* merely for a limited period, a limb may be rendered *perfectly motionless and senseless*, and what may be an additional advantage, *fixed in any desired position*. He had immersed his finger in these fluids for about half an hour or an hour, and at the end of this period the finger was nearly powerless and insensible, and that it was forty-eight hours before the effects entirely disappeared, a sensation of heat and discomfort extending along the tract of the nerves to the axilla. Before operating on a difficult case for artificial pupil, he had applied, for twenty minutes, a small quantity of the vapour of chloroform to the eye, by means of a small jar which accurately fitted the orbit, with the effect of rendering the parts nearly insensible. The first effect of these agents, when locally applied, is to produce redness, heat, and smarting, which subside, followed by swelling and redness of the integuments, which remain for some time. Mr. Nunneley states that he could completely paralyse any limb of frogs or toads by immersion or exposure to the vapour, in about five minutes or less; and he mentions, as a curious fact, that if the exposure to the influence were continued longer than was sufficient to produce a local effect, this influence extended to the corresponding limb of the other side: thus, for instance, if one hind leg became *too much* influenced, the other hind leg partook of the same effect; if the fore leg were too much affected, then the other fore leg became so likewise, and, subsequently, the whole body; a result which Mr. Nunneley mentions as strongly corroborative of his experiments with prussic acid, as detailed in the last volume of the 'Provincial Transactions.'

A further practical illustration of this principle is reported by Mr. Spry, surgeon to the Truro Infirmary, who resorted to the local application of chloroform in the case of a tumour, two inches long and one inch wide, on the sole of the foot, which had to be removed. Folded lint, saturated with the chloroform, was applied to the tumour, and a piece of oiled silk placed over it. In a quarter of an hour, the lint was again moistened with the chloroform, and in about half an hour, about two drachms having been employed, he could bear pressure on the tumour without complaining. The patient declared after the operation, that he felt only a very trifling pain at the deepest part of the dissection, but none during the division of the skin, cellular membrane, &c.†

—We find an extract, bearing date some time antecedent to these latter communications, from an American journal, to the effect that chloroform had been applied with success to a wound of the hand, in which the radial nerve seemed to be implicated. A piece of sponge was moistened with the anæsthetic agent, and applied to the wound, over which a piece of oiled silk was bound, and on the next morning, all traces of the painful implication of the nerve are said to have been removed.‡

* Provincial Journal, June 28, 1848.

† Ib. Aug. 28, p. 459.

‡ Medical Times, May 20, 1848.

7. GUNSHOT WOUNDS.—This subject is treated of so extensively in the French journals, that it would constitute a volume to give anything like a complete statement of the principles and practice adopted and discussed by the leading surgeons in Paris. The insurrections of Paris and other continental cities have given civil surgeons of the highest eminence an opportunity of investigating, we may say thoroughly, this important branch of surgery, which has hitherto been treated of mainly by military surgeons. The circumstances under which the wounded have been placed, in the recent combats, differ very materially from those which accompany the ordinary course of military and naval warfare, and new views and enlarged statistics are likely to open upon the subject. Sufficient time has not yet elapsed for the results of treatment to develop themselves in full, or that the whole may be collected and compared, but it cannot be doubted that some experienced surgeon will undertake to do this, and that, before long, we shall meet with a complete treatise which will enable us to bring these results before our readers. In the mean time, we introduce a condensed statement of M. Velpeau's lectures, as furnished for the 'Lancet' by M. Victor de Méric (Ext. art. 46, p. 101), selecting these as the most complete, practical, and methodical papers before us, and on account of the experience and high reputation of their author; and we purposely abstain from confusing our readers with a detail of partial statistics and controverted points, until the innumerable facts which must develop themselves in the continental hospitals have been more deliberately considered. There are some very striking circumstances in M. Velpeau's treatment of these injuries. It will be observed, that he is a strong advocate for the practice of our own Wiseman, and the French Le Dran, viz. where primary amputation is necessary, to operate quickly—in the "period of stupor," a period defined as lasting from twenty-four to thirty-six hours—not waiting until reaction is established, and inflammation set in. If, from any cause, amputation is not performed immediately, he then defers it until a still later period, and he is thus opposed entirely to that school of surgeons who, with Faure, Bilguer, and Hunter, advocate delay or repudiate amputation altogether. Professor Velpeau objects also to the use of anæsthetic agents, upon the principle that, when the nervous system is already so much depressed, as in the stage of stupor after a gunshot injury, it is not expedient to employ agents which, like chloroform, produce their effects by depressing the nervous energies. Another more striking circumstance in the extracts in question, is the remark of Velpeau on the analogy between the after-symptoms of gunshot wounds and cases of poisoning, and his opinion that these symptoms are really produced by a poison generated in the tissues from stagnant blood or secretions, and absorbed and conveyed into the blood; so that the supervening condition is truly a blood disease. As a general rule, M. Velpeau advocates amputation when gangrene sets in, before the appearance of a line of demarcation, admitting, however, of some exceptions. His great reason for this practice is, that so soon as deleterious substances are absorbed into the blood, the organism will not be able to cope with the double effects of the poisons and of the operation. He is against the practice of incision, as adopted by Dupuytren. M. Velpeau is a powerful advocate of the contagiousness of hospital gangrene, and of its animalcular origin.

He regards the position of a wounded limb as an item, in the treatment, of very great importance, but instead of adopting a dogmatical rule, like some recent writers upon this subject, he points out that the position should be appropriate to the circumstances and stages of wounds. During phlegmonous inflammation, for instance, it should be kept elevated, but if purulent matter be formed, no measure could be more erroneous in principle, or more injurious; a dependent position being then required to prevent the formation of sinuses, and to form an obstacle to the purulent matter graduating towards the trunk.

—Amongst the other papers before us on this important and extensive subject, we may mention a letter from Dr. C. Kidd, of Limerick, addressed to the Editor of the 'Dublin Quarterly Journal,' with some most interesting details from the Paris hospitals.* Our limited space completely excludes any abstract of this letter, and we can do no more than recommend its perusal to all who interest them-

* Aug. 1848, p. 216.

selves in the subject; they will find important facts and statistics from the practice of MM. Gerdy, Morel-Lavellec, Jobert, Malgaigne, Gosselin, Roux, Manec, Voillemier, and Baudens, as well as Velpeau. Dr. Kidd remarks, that the principal hospitals were completely inundated with frightful cases, and he believes that whatever else may result from the insurrection, it is likely to be attended with very eminent advantages to surgery, and the treatment of gunshot wounds in particular.

—Dr. Waters has also published a paper more recently on the same subject, in which he attempts to estimate the value of the different modes of practice, and to throw light on points respecting which diversity of opinion still exists.*

8. PENDULOUS TUMOURS.—In the department of general surgery, after the various papers on gunshot wounds, perhaps there is no other subject which has been so fully and practically treated as this, by Dr. O'Ferrall.† There is no class of cases in which the science is more frequently brought to bear upon the art of surgery, in all countries, seasons, and localities, than in this, and we shall accordingly bring before our readers the substance of this important essay. Dr. O'Ferrall sets out with the remark, that pendulous tumours have peculiar characters arising from their form, their depending position, and the nature of their attachments, and, in a great degree, from their organization and the functions of the part from which they spring. Those which arise internally from the mucous and serous membranes, have received from pathologists more attention than those which occur externally, and of the latter, *molluscum* is almost the only variety which has been specially considered. Dr. O'Ferrall's paper accordingly treats more especially of the external pendulous tumours, and it comprises most interesting cases, illustrated by woodcuts.

Of the *Anatomical Characters* of such tumours:—Some are common to all, others are peculiar to the situation of the morbid growth. A prolongation of the common integument forming the pedicle, is expanded over the tumour, and is here either equal and smooth, or irregular and warty, according to the organization of the locality. The length of the pedicle appears to be, in a great measure, determined by the size and weight of the tumour; but the apparent length is often much greater than the reality. This arises from traction. The correction is easily made by poising the tumour on the hand. The skin immediately recovers its natural position, and the actual length of the pedicle is seen. In operating, it is desirable to establish this point, in order to avoid a cicatrix unnecessarily large.

When the pedicle, Dr. O'Ferrall remarks, is narrow, an artery and accompanying vein occupy a considerable portion of the thickness of the neck, and distribute branches through the bulbous portion. The artery is sometimes so large as to yield a pulsation equal to that of the radial artery of a child. The ramifications are extremely minute. It is difficult to accomplish the injection of the vessel, for the contraction of the skin, when the part is removed from the body, suddenly diminishes the volume of the tumour in a remarkable degree, and expresses the liquid contents of its cellular tissue. The pedicle, which before operation was, perhaps, four inches long, becomes instantly shortened to an inch and a half or two inches, and recedes upon the surface of the tumour.

The vein, in such tumours, is a simple cylinder, its radicles being, like the branches of the artery, exceedingly minute. No structure analogous to valves can be detected. This, the author remarks, is worthy of observation, as connected with the tendency to œdema and lividity which those productions, when of any considerable size, invariably exhibit. The circulation is less simple in the adipose variety. The pendulous nævus may also be supplied by more than one vessel. The same may be true of the pendulous tumour which has become malignant; but the arrangement will be found to depend on the breadth of its attachment to the surrounding parts.

The general appearance of the section of pendulous tumours is that of areolar tissue, more or less hypertrophied, and containing in its meshes a limpid secretion. The whole has a pearly or whitish semi-transparent appearance, when of the simplest kind. The granulations which spring from these tumours, when the skin has given way, have invariably the red fleshy tint of a highly organized part.

* Monthly Journal, Oct. 1848, p. 251.

† Dublin Quarterly Journal, Nov. 1847.

To the tissues already named, and which constitute the simplest form of pendulous tumour, may be added others, which give it a special character. Thus the cellular tissue may contain adipose substance in quantity sufficient to give it the character of a fatty tumour. The cellular tissue may be occasionally the basis of an accidental erectile formation. The tumour in such cases has the uneven purple colour of the nævus, and is capable of great reduction in its volume when compressed between the fingers. A section of these tumours shows the numerous apertures of vessels divided in different directions with respect to their axes.

When a tumour of the pendulous kind grows from the nipple or areola of the female breast, it will be found to include some elements peculiar to the part. The glandular follicles descend with the tumour as it grows, and form a part of its structure. These follicles become hypertrophied, and add to the volume. The growth of tumours springing from the areola is more rapid than that of others in the neighbouring portions of the female breast. Dr. O'Ferrall has not seen any pendulous tumour in the latter situations as large as those which are productions of the areola. He was consulted by a lady who had two pendulous tumours on the right mamma; both were, according to her account, on the part as long as she could remember. One was about the size of a small pea, soft, without colour, and suspended by a pedicle of extreme tenuity, growing from a point two inches distant from the nipple. The other was as large as a chestnut, brown in colour, and slightly irregular in its surface. The pedicle of the latter was thicker, and grew from the areola quite close to the nipple.

The presence of the glandular and sebaceous follicles in these tumours imparts to them other characters. Their surface becomes irregular; they are bedewed with a secretion, which acquires a peculiarly fetid odour if allowed to accumulate. Patients are so much afraid to touch or irritate such tumours, that the secretion is permitted to congregate on the surface. When this is irregular, and when the hypertrophy of the follicles causes them to project, the whole assumes a warty appearance, each projection being coated by the concretion, slowly, but constantly increasing, until it assumes an appearance resembling ichthyosis. These verrucous projections can be separated to the depth of two or three lines, the cleft being found moist, and emitting an offensive exhalation.

A section of a tumour of this description exhibits a remarkable lactescent whiteness in every part except at its margin, where the warty-looking prominences are found, contrasting strongly with that of the simpler productions from other parts of the breast. Dr. O'Ferrall has met with but one variety of malignant growth (the encephaloid) in these tumours.

Morbid alterations in pendulous tumours.—Pendulous tumours, nourished according to the general laws which preside over other portions of the same organism, are susceptible of the same morbid changes. Some of these seem to depend on the retardation of the circulation within the tumour, from their depending position. The arterial supply increases with the volume of the tumour itself. There is not that provision by which the venous circulation is supported against gravity in other parts. The enlargement of the tumour is thus accompanied by a disposition to congestion. The capillaries of both systems become dilated, and the surface acquires a purplish tint, in some places inclining to the arterial, in others to the venous hue.

Some increase of solidity is generally added to the other characters of the tumour at this period. This *induration* of the cellular tissue and skin is irregularly disposed, and (if the tumour be large) gives the surface an uneven figure, which may excite suspicions of a malignant taint. The experienced practitioner will have no difficulty in distinguishing, by the touch, the hardening here alluded to, from any more formidable degeneration.

Edema of pendulous tumours is another condition to which the capillary congestion almost inevitably leads. The surface of the most depending part gives a doughy sensation; and this is occasionally so great as to decide the inexperienced, and lead to the opinion that matter has formed. If the cellular membrane be of loose texture, this mistake is more likely to occur. Dr. O'Ferrall saw a lady some time ago with a pendulous tumour growing from the right labium, the size of a large orange, with a pedicle four inches in length. The bottom of the tumour

was discoloured, and had the mark of a lancet puncture, made by a practitioner the day before, with the view of giving exit to matter. Nothing but serum, mixed with blood, had escaped. The tumour was removed at once, and no further accident occurred.

Suppuration will, however, take place in pendulous tumours exposed to much friction or injury. A gentleman consulted Dr. O'Ferrall on account of a tumour growing from the right natis, close to the transverse fold. The pedicle was broad, and about an inch long, consisting of the surrounding integument, drawn down by the weight. The fundus had a small opening through which pure pus was constantly oozing; a probe passed into this aperture could be made to move freely in a cavity an inch in depth. The remainder of the tumour was palpably of the adipose kind, some portions having undergone remarkable solidification. The whole mass was the size of a melon. It was easily removed. The cavity of the abscess was lined by false membrane, similar to that found in an ordinary abscess.

Abrasion of the cuticle covering a tumour, in which œdema has been established, gives rise to some curious alternations of increase and diminution of its volume. The whole tumour becomes anasarcaous in many cases; and, when abrasion takes place, it is succeeded by an oozing of serum, resembling that which occurs from the legs of dropsical patients. The bulk is rapidly diminished by the escape of this watery fluid. If the patient remains in bed, the part heals, and the former size is again reproduced. This alternation of increase and diminution has been described to Dr. O'Ferrall by several persons labouring under the disease.

Ulceration of the skin is deserving of especial notice, on account of the resemblance which the granulations occasionally bear to the fungus of malignant disease. The fundus of the tumour may exhibit in succession all the changes already described—congestion, œdema, abrasion; and at length the entire thickness of the skin gives way. The granulations which are produced from this surface, irritated by the patient's dress, and congested, from their position, present an aspect very different from that of granulations from any original portion of the organism. They are large, dusky red, easily made to bleed, and exhaling a very fetid odour. Their exuberance sometimes exceeds their vital power, and they slough and throw off a portion of their surface.

Hypertrophy of the cervix is sometimes observed to follow the general inflammatory state of the bulbous portion, produced by friction or irritation. Dr. O'Ferrall has observed this change most frequently in those which spring just below the occiput. The neck becomes indurated and enlarged; its colour vascular and dusky; and it is painful when pressed. This induration may take place without much discoloration, but it generally extends itself a little way into the surrounding skin. The tumour now seems to droop less, and the cervix to be more erect, and shorter than before.

If the section of the neck of a tumour in this state be made in the manner suited to those with narrow pedicles, there is a probability of its being reproduced. The cicatrix left after the operation is more prominent and harder than the surrounding skin, and gradually becomes elevated into a new tumour.

Independent of the more chronic alterations, this class of tumours may become the seat of acute inflammation. In a case of erysipelas, which spread over the chest of a lady, a pendulous tumour the size of a filbert, growing from the areola, suffered in common with the neighbouring parts, and, possessing less vitality than them, sloughed in the progress of the case. In another case, the tumour inflamed; bullæ, containing a dark fluid, formed on its surface, and a superficial ulcer remained on the subsidence of the attack.

History of pendulous tumours.—They are apparently more frequent in female patients than in males. They may be congenital, or formed at any subsequent period of life. Of the *former class*, some remain stationary, or grow so little after birth, that their growth cannot be said to keep pace with the development of normal parts. They are found, at a mature or advanced period of life, to be in size nearly as they were observed at the time of birth, having lost, perhaps, the plumpness belonging to the skin of infancy, and their colour being changed by age with that of the surrounding skin, or a little deepened or dusky at the bulb from

venous congestion. Others, after remaining stationary for an indefinite period, enlarge, inflame, and become the seat of morbid action, or the nidus of morbid deposit. The earliest change is often traced to some accidental friction or laceration, to which, from their form, they are so much exposed. When a pendulous tumour begins to enlarge, its hypertrophy is attended by some or all of the other phenomena described in the beginning of Dr. O'Ferrall's memoir under the head of *morbid alterations*.

In this category may be included those tumours which, existing in a different form at birth, acquire their pendulous shape at a later period, and apparently in consequence of an increased volume, the weight of which occasions, by traction, an elongation of the skin. The pendulous *nævi* are generally so formed. At birth there may be a simple elevation of the skin, stained, as usual, by the colour of the blood contained in the erectile tissue. The colour varies from one shade to another. This elevation of the skin may remain unchanged for years, and at length begin to expand; but once the impetus is given, the bulk of the swelling generally increases; and if the growth is so situated that gravitation is almost constantly operative, the pendulous form is eventually acquired. The characters of such a tumour will be found to vary according as the circulation through its vessels is free; or as consolidation of these channels and the surrounding cellular web has taken place. In the former case the tumour, when pressed between the fingers, becomes flaccid and pale; and when the pressure is removed, the fulness and colour of the part gradually return. When a tumour of this kind is accidentally pricked, it bleeds freely, and indicates the nature of its contents. If, on the other hand, the tumour be of long standing and considerable size, and its vessels have become solidified, the part gives to the finger the sensation of a number of solid cords running in different directions through the mass. Neither the colour nor the volume can be materially diminished by pressure. The diagnosis of this peculiar modification of *nævus* will generally be assisted by the presence, in the neighbourhood, of erectile tissue in a less equivocal form.

In the *second class* we shall find the simple cellular and the adipose tumours, in either of which the malignant degenerescence may eventually take place. The early history of these cases is that of all similar formations. The cellular tumour is generally described as being like a "*soft wart*," and its enlargement is ascribed to injury or laceration from accident. The external appearance will be found to vary according to the locality, organization, and peculiar function of the spot from which it springs. There is a peculiar arrangement in some. The surface of the growth seems to be formed by a number of vegetations growing parallel to each other at right angles to the surface of the tumour. Each of these elevations presents, at its extremity, a cuticle thickened and hardened into a warty consistence, and with a brownish-gray colour, different from that of the remainder. Dr. O'Ferrall does not consider this appearance to be peculiar to productions of the dermoid tissues. The mucous membrane may give origin to warty growths exactly resembling what has been now described. The adipose tumour frequently becomes pendulous when circumstanced favorably. When large, and of long duration, it may present any of the morbid changes already alluded to. Dr. O'Ferrall has seen abscesses form in a pendulous adipose tumour; and he has removed pendulous fatty tumours of long standing, in which he has found distinct nodules of malignant deposit.

Thus, whether congenital or otherwise, some pendulous tumours become malignant, while others remain exempt from heterologous deposit to a late period of life.

Dr. O'Ferrall believes, however, that a pendulous tumour is rarely the seat of encephaloid or cancer at the period of its first formation. This is his present impression, and if future experience confirms the opinion, it will follow: *First, that all pendulous tumours should be removed at the earliest period at our disposal; and, secondly, that they can be done so with the fairest prospect of a permanent cure.*

The grounds for the opinion that pendulous tumours are never malignant at the period of their origin, are, first, that Dr. O'Ferrall has removed tumours of this kind, containing tubera of encephaloid, and which were suspended by a pedicle of thin healthy integument; and, secondly, that when encephaloid is

deposited in or under the integument, its further development or reproduction is always in a lateral direction, where it has most support, and it therefore does not become pendulous. If encephaloid accumulated in the forward rather than in the lateral direction, the cuticle must soon give way, and expose the fungus. The tumour would thus be prevented from remaining undetected sufficiently long for the formation of a stalk or pedicle, by the traction occasioned by its weight.

Treatment.—It has been shown that some of those tumours, after remaining stationary for years, become the seat of morbid action or morbid deposit. The best rule of practice is to remove them when first presented to our notice, unless some clear contraindication be present.

In its simplest form, the pendulous tumour seems to require merely the division of its pedicle by a knife-edged scissors or scalpel. If the section be made too near the bulb, an unsightly projection will remain after the operation; if it be done too near the other extremity of the pedicle, the integument, on retracting, will leave a wound, and consequently a scar much larger than could have been anticipated. Allowance, then, must be made for the elongation of the pedicle by the weight of the bulb, and for the contraction of the stalk, which always follows its division. The best mode of proceeding is to poise the tumour on the hand, and allow the surrounding skin to retract and recover its pristine position, and then to make the section of the pedicle a little below its origin. Should the nutritious artery be large enough to deserve attention, the jet of blood may be prevented by previously including the neck of the tumour in a provisional ligature, and, when the section is accomplished, tying the divided artery. The provisional ligature may then be removed altogether. A slight touch of the nitrate of silver, just sufficient to produce a delicate white coating, will not shorten the duration of the subsequent smarting, but lessen the probability of any reaction, especially of an unhealthy kind. It has appeared to Dr. O'Ferrall that whatever seals up the cellular tissue, or the orifices of divided vessels of every denomination, diminishes the tendency to diffuse troublesome inflammation. Simple water for dressing will then complete the local treatment.

In operating on the adipose pendulous tumour, the extent of interference with the pedicle will be regulated by the presence or absence of fatty matter in its substance. If the growth extend through the neck into the subcutaneous cellular membrane beyond it, such an incision must be made as will allow of its complete extraction. In such a case, the small cavity then left should be filled with lint dipped in olive oil, and the integument brought gently over it, to prevent an unnecessarily large cicatrix. The lint is withdrawn when suppuration is established, and the integuments brought together by adhesive plaster.

The proceeding in the case of pendulous *nævus* must be adapted to the peculiar circumstances of the case. It is not usual for the pedicle, in such instances, to be entirely free from all traces of erectile tissue. Should it be implicated, or the vessels of the cellular or dermoid tissues beyond it be hypertrophied, a simple section would be inadequate to the cure; hemorrhage of a troublesome nature would be the immediate result, and reproduction of the disease the more remote consequence of such an imperfect procedure. The diseased part must be included in an elliptical incision, and thus freely and completely removed.

It may happen that the erectile formation may extend irregularly for a considerable distance. In such cases, the amputation of the pedicle alone would entail the consequences already alluded to, while the excision of the whole of the morbid structure might be forbidden by its extent, or by the importance of the parts in which it is found. The following is the mode recommended under such circumstances, and when the removal of the tumour is desired. The tumour being held horizontally and on the stretch, the point of the style or nail cautery, described by Dr. Wilmot, should be passed through the cervix in several places, so as to ensure the obliteration of the vessels contained in that place. The whole cervix may be traversed by these punctures at one or several successive operations, according to its breadth. When the vascular character of the cervix is thus changed, its section may be performed without risk of hemorrhage. A series of seton threads would accomplish this object, but in a manner much more tedious and painful to

the patient. The mode of obliteration of erectile tissue employed by Dr. Wilmot is a great improvement on the previous practice in such cases. Its adaptation to pendulous tumours previous to their section will be found available, and Dr. O'Ferrall recommends it.

When a pendulous tumour is known or suspected to be malignant, great care must be taken to remove the entire of the morbid parts. If the heterologous structure be confined to the bulb of the tumour, and the pedicle or surrounding skin be healthy, there can be no reason for more than simple section of the former; but this should not, for obvious reasons, be made too near the bulb. But should the neck of the tumour be thickened, hardened, or irregular, a free elliptical incision should be made in the integument beyond it, and all suspicious parts satisfactorily removed.

9. INJURIES AND DISEASES OF THE HEAD AND NECK.—A work on this department of surgery, consisting of a selection from the 'Memoirs of the Royal Academy of Surgery of France,' was issued for the year 1847-8,* by the Sydenham Society. The volume contains the important memoirs of Quesnay and Louis on wounds of the brain, and the use of the trepan; that of Lassus on wounds of the superior longitudinal sinus; Louis on the fungous tumours of the dura mater; Ferrand on hernia of the brain; Bordenave's interesting and important 'Summary of Observations on the Diseases of the Maxillary Sinus;' the same author's memoir on certain exostoses of the lower jaw; Louis on bronchotomy; Martinière on perforation of the trachea; and Malle's cases of swelling of the tongue. Although this is merely a reproduction of some interesting works of the most eminent French surgeons of the middle of the last century, and can in no way be regarded as appertaining to the progress of surgery at the present period, yet many of these papers will be new to the exclusively English reader. The whole of them are eminently practical; and a knowledge of their contents is indispensable to every surgeon who wishes to acquaint himself with the histories of the subjects of which they treat. The reader will find, interspersed throughout the volume, many highly important practical precepts—too frequently lost sight of subsequently, and then reproduced as novelties—most forcibly illustrated and insisted upon. There is also appended to the work a list of additional memoirs on diseases and injuries of the head and neck, contained in the five quarto volumes of the French Academy, including diseases of the nose, eyes, and head, and papers on hare-lip, salivary fistula, and diseases of the interior of the mouth. The republication of these works, with the numerous cases which they contain, is calculated to promote the real advance of science, by preventing the insertion, in our periodicals, of similar cases as novelties, instead of merely additions to our statistics; and the repetition of remarks and reasonings, as new, which have been long since adopted from some of the greatest proficient in surgery. The periodicals contain also the following suggestions belonging to this head:

10. *Improvement in the Operation of Hare-lip.*†—The plan appears to have been proposed by M. Phillips, of Liège, and lately adopted by M. Jobert, at St. Louis, in a case in which the palate was divided, and the nose deformed. It consists in raising each flap after refreshing its edges, and dissecting its base on each side with a bistoury from below upwards to the maxilla, thus detaching the *alæ nasi* from their deep connexions. This done, each side of the jaw and *alæ nasi* are drawn downwards and forwards, so as to set the nose completely free; and for the purpose of fixing it in its projecting and normal state, the base of the *alæ nasi* is slit with a long needle, placed transversely. Compresses are placed over the dissected cheeks, in order to facilitate their adhesion to the parts below, and to prevent the nostrils again becoming flattened. These are put on after the sutures are applied to the hare-lip, and after the transverse division of the nose, and are thus fixed with starch bandages. In this manner a perfectly well-formed nose may be made, detaching the cheeks and the *alæ nasi* from their adhesions to the maxilla, so as to fashion the nose and lips conveniently, without any visible cicatrix or external wound. The idea of dividing the base of the nose transversely with a

* Observations on Surgical Diseases of the Head and Neck. Translated and edited by Drewry Otley.

† Annales des Thérapeutiques, Feb. 1848.

long needle, so as to raise and *shape* the nose, appears to be a real improvement in the operation.

11. *Extirpation of the Velum Palati*.—A case is reported from one of the Italian hospitals of extirpation of the velum palati with the bistoury. It appears that M. Blandin was the first to perform the operation, with the ligature, at the Hôtel-Dieu, at Paris.* This surgeon laid it down as a principle, that it would be imprudent to resort to the knife, on account of the danger of wounding the palatine arteries, and of hemorrhage; but M. Mirrich records a case in which he employed the bistoury. The case was that of a man, in whom the velum was thickened and depressed, so as to cover the posterior wall of the pharynx; and behind it there were numerous excrescences, proceeding from the posterior part of the nasal fossæ. There was a vegetation, the size of a chestnut, on the posterior wall of the pharynx. The pillars of the fauces were degenerated, and covered the tonsils, also converted into encephaloid. The nostrils were impervious, the tongue pushed to the right, strabismus of the left eye, deglutition difficult, speech almost unintelligible, attacks of threatened suffocation. The operation was begun by ablation of the velum palati; it was seized on one side with Museaux's forceps, and drawn forwards, then penetrated at the centre of the base with a bistoury, and completely excised, first on one side, then on the other. The flow of blood was trivial; and the operation proceeded with the extirpation of the tumours of the pharynx, the pillars of the fauces, and, as much as possible, of the tonsils. There was now a good deal of bleeding, evidently from the interior of the tonsils. The actual cautery was applied, also compresses steeped in a concentrated solution of alum; but the bleeding was arrested with difficulty. The twelfth day after the operation the eschars were detached, but the whole of the diseased mass was not separated. The actual cautery was again applied; and three weeks afterwards the patient appeared to be quite cured, although it is probable that the disease may return. Existence, at all events, was considerably prolonged.

Another Italian surgeon, Dr. Médoro, has also treated successfully a cancerous affection of the velum palati. He extirpated it with the bistoury, and applied the actual cautery. These cases appear to show that the velum palati may be removed without danger from hemorrhage.†

12. *Extirpation of the Superior Maxilla*.—In the case of a young woman, æt. 28, Mr. Falloon extirpated the maxilla for a fibro-cartilaginous tumour in the anterior maxilla. The steps of the operation, which was completely successful, are accurately detailed in the work from which we quote. On making a section through the tumour, it was found to consist of a dense fibro-cartilaginous structure, with spiculæ of bone interspersed. Most of the original bone appeared to have been absorbed; and a case had been made for the tumour by the deposition of new bone.‡

13. *Carcinoma of the Œsophagus*.—A case, in which the tube opened into the aorta, is given by Professor Pfeufer, of Heidelberg. The disease of the Œsophagus progressed with the usual symptoms, until a catheter could not be made to penetrate into the stomach, and only the smallest quantity of liquid could be swallowed. The morning after the last attempt to pass the catheter, which produced violent pain, the patient threw up about three pounds of frothy arterial blood; the hemorrhage returned in the evening, and death took place. On examination, a carcinomatous ulcer was found in the Œsophagus, about the size of a five-franc piece, nearly on a level with the bifurcation of the trachea, communicating with the aorta by an opening, with irregular edges, an inch and a half in diameter, and with the trachea by an opening half the size.§

14. *Salivary Calculus*.—M. J. Antonio de Boy records a case which traversed the centre of the base of the tongue transversely. It was eighteen lines long, and from four to eight or nine wide.||

15. *Tracheotomy*.—A very interesting case of laryngitis in a phthisical patient, in which this operation was performed with success, although the patient died six weeks afterwards, will be found related by Dr. Barker in the volume just

* Annales des Therapeutiques, vol. ii, p. 280; vol. iv, p. 108.

† Lib. cit. March 1848, p. 464.

§ Zeitschrift für Rationelle Medicin.

‡ Dublin Quarterly Review, Nov. 1847, p. 491.

|| Encyclographie, June 1848, from the Gaceta Medica.

issued by the Medico-Chirurgical Society of London.* Profuse hemorrhage occurred; and the patient was twice nearly suffocated by the entrance of blood into the trachea. In Louis's memoirs, in the work to which we have referred at the commencement of this section, the case will be found of a soldier who was nearly suffocated after bronchotomy, by the escape of blood into the trachea; and a suggestion occurs that the effects of the accident may be obviated by making the patient lean forward, with his head supported over the side of the bed, and his face to the ground.† Position, certainly, ought not to be lost sight of under such circumstances.

16. INJURIES AND DISEASES OF THE ABDOMEN.—Several occasions have presented themselves in the course of the publication of these volumes, to show that the opinions and practice of surgeons are undergoing considerable modification as respects the difficulties and dangers of the section of the peritoneal cavity. Mr. Hancock has recently forwarded us—

“*A Short account of a case of Disease of the Appendix Cæci cured by Operation*,”‡ in which, as far as a single case goes, the views of the more modern and bolder surgeons are confirmed by a new mode of treatment, adopted successfully. Mr. Hancock appears to entertain a very strong opinion on the subject, and trusts that the time will come when incisions into the abdomen will be successfully employed in cases of *peritonitis* terminating in effusion, which usually end fatally; those cases where the patient sinks and dies, and upon examination a quantity of offensive, turbid, serous flocculent effusion is found in the abdominal cavity. In many such, whether puerperal or otherwise, the post-mortem appearances are totally inadequate to account for death. On one essential point, Mr. Hancock's pathological doctrines are in accordance with those which we have had occasion to refer to in a former page, as propounded by M. Velpeau, and entertained by some of the most eminent men of the present day; it is the stagnation and the decomposition of the effusion, which, by poisoning the economy, is the cause of the typhoid symptoms and the fatal result, and the fluid destroys by its character rather than by its quantity. The operation proposed is an *incision*, carefully made, extending for an inch and a half or two inches, from the anterior superior spine of the ilium inwards above, and as close as possible to Poupart's ligament, so that the effusion may drain away. The trocar should on no account be employed; for, setting aside the existence of adhesion, there is never sufficient space between the intestines and parietal peritoneum to prevent the risk of wounding the former with such an instrument; but by dissecting carefully down, the surgeon may open the abdomen with comparative safety to the patient.

In Mr. Hancock's case there were symptoms of peritonitis, and of some mischief about the cæcum or its appendix; treatment had been of no avail, and the patient, a female, was evidently sinking. She was put under chloroform, and an incision, about four inches long, made inwards from the spine of the ilium above Poupart's ligament, but as close to it as possible. Upon opening into the abdomen, a quantity of excessively offensive, turbid serum, with fibrinous flocculi, poured out, mixed with air-globules, and also patches of false membrane. She was directed to be turned on her side, that the discharge might freely escape, and a poultice to be applied. The treatment consisted in opiate draughts and enemata, with occasional small doses of calomel, plenty of nourishment and stimulants; and she went on favorably during thirteen or fourteen days, when two small balls of fecal matter, surrounded with calcareous deposit, were found in the wound, which balls, from their size, Mr. Hancock imagined to have escaped by ulceration from the appendix vermiformis. From this time she was treated with quinine and opiates, and continued gradually to improve. At the expiration of three weeks from the discharge of the fecal substances, the wound was entirely healed, and she left London a few days afterwards.

17. *Intestinal Obstructions*.—An important paper has been drawn up upon this subject by Mr. Benjamin Phillips,§ who has collected the histories of 169 cases

* Transactions, vol. xxxi. 1848, p. 51.

† Lib. cit. p. 246.

‡ Read before the Medical Society of London, Sept. 25, 1848.

§ Mr. Phillips on Intestinal Obstructions, Med. Chir. Trans., vol. xxxi, p. 34.

of intestinal obstruction from internal causes. The whole paper is worthy of a careful perusal; but we can only find space for the author's conclusions:

1st. That intestinal obstructions, dependent upon causes acting within the abdominal cavity, are by no means of rare occurrence.

2d. That they may occur at any period of life, and that although a particular variety of obstruction may be more frequently seen than another, at a particular period of life, there are still so many exceptions to the rule that we cannot rely much upon the probability that a particular obstruction is present at a given period of life.

3d. That the diagnosis of the existence of an obstruction is usually not difficult.

4th. That the diagnosis of the nature and the seat of the obstruction is, in most cases most uncertain and unsatisfactory.

5th. That, beyond the general history of the case, the most probable means of ascertaining the seat of the obstacle is, to follow carefully the distended intestine up to the point of obstruction.

6th. That under ordinary treatment, these cases are fatal in the proportion of, probably, seven out of nine.

7th. That although no reliance can be placed on purgatives, on mercury, on opium, or any variety of injection, and that although, in many cases, they seem to aggravate the suffering, yet, as it is unquestionable that, in some cases, they have been administered with relief, we cannot advise that they should be discarded, but we doubt the prudence of continuing to use them beyond two or three days.

8th. That the interference by surgical operation is justifiable, when three or four days have passed without any relief from ordinary means (provided the constipation be complete, and vomiting of fecal matter continue), because it affords a greater chance for the preservation of life than ordinary means.

9th. That if the indications as to the seat of the obstruction be sufficient to satisfy the surgeon, it is at or near that point that the incision should be made, but if there be much doubt, it is most prudent to make the incision on the median line.

10th. That if it be found impracticable to remove the cause of the obstruction, or imprudent to make any extended search for it, relief may be obtained by forming an artificial anus at as near as may be prudent to the seat of the obstruction; and that if it be, as it frequently is, near the termination of the ileum, an incision on the median line admits of its accomplishment as near as may be to the termination of that intestine.

18. Dr. E. Alonzo has described a case of *internal strangulation* produced by displacement of the spleen and pancreas. A woman was seized, without any manifest cause, after an operation for fistula, with pains in the abdomen, bilious vomiting, intense thirst, red and dry tongue, scanty urine, rapid contracted pulse, and constipation. Under the influence of energetic treatment these symptoms subsided in four days, but they returned in a more severe form six days afterwards; meteorismus set in, nooses of intestine could be perceived through the abdominal parietes, and a hard tumour, about three inches in diameter, was found in the right iliac region; in the eight days from the relapse, stercoraceous vomiting set in, and forty-eight hours afterwards the patient sank. On post-mortem examination, the peritoneum was found inflamed and dilated, loops of intestine adhered to each other, and to the intestinal walls. There was a tumour in the right iliac fossa, covered by omentum; on cutting through the latter, a cavity was penetrated containing fluid blood; an hypertrophied and softened spleen adhered to the parietes of this cavity, for which a kind of cyst had been formed by the omentum anteriorly and behind, and laterally by the great intestine, the convolutions adhering together, and to the spleen. The spleen, adhering firmly to the end of the pancreas, dragged upon this viscus, which had taken a vertical position, and passing anteriorly to the transverse colon, compressed and strangulated this intestine.*

19. *Hiernia*.—Mr. Allan, of Epsom, records two cases, in one of which gradual reduction took place spontaneously, long after all attempts to produce it had been abandoned as impracticable; and in the other, not only reduction, but a permanent radical cure was obtained. In the latter, which was a very remarkable case, it was probable that the inflammation, occasioned by a truss, had extended to the subcutaneous tissues, and obliterated the inguinal ring, the bronchial sac becoming gradually absorbed; symptoms of strangulation had not occurred in either case.†

* Archivo de la Medicina Espanola y extranera.

† Prov. Med. and Sur. Journal, Sept. 20, 1848, p. 512.

20. *Herniotomy*.—Dr. Pirrie's communication on '*The Modes of Proceeding in regard to the Hernial Sac in the Operation for Strangulated Hernia*,'* contains a statement of the various reasons for and against the *intra-peritoneal* and the *extra-peritoneal* modes of division. We have extracted from this paper four cases, in which the stricture was produced by a band of lymph effused from the serous coat of intestine, and surrounded it and constricted it as by a ligature, (Ext. art. 39, p. 84.) In such cases, and in others, where the stricture is formed by the sac, or within it, the *extra-peritoneal* mode is quite unsuitable, and great caution is necessary before the surgeon decides upon adopting this method, lest this should be the seat of the stricture; just as great caution is also necessary when the sac has been opened, to ascertain whether membranous bands do or do not exist. After admitting, as a general principle, that in cases where the stricture is external to the sac, the *extra-peritoneal* division is decidedly preferable, as being attended with much less danger, Dr. Pirrie gives a detail of the exceptional cases. Scarpa, Pelletan, Cloquet, Hesselbock, and Lawrence are quoted on the subject of adhesions and the various obstacles to reduction. It is shown that, under several conditions, if the sac be not opened, reduction is impossible; that if the sac be opened, two of these, at least, may be overcome—first, recent soft adhesions, formed by coagulable lymph; and, second, filamentous adhesions—which can be either broken down by the finger, or divided by the knife. Other cases present an insuperable impediment to reduction, as natural adhesions taking place within the abdomen before the hernia protrudes, and close, organized adhesions of great extent, where the hernia is large; in these latter cases, Sir A. Cooper's practice of dividing the stricture, which is, for the most part, external to the sac, and leaving the latter unopened and the hernia unreduced, is the best practice. The whole history of herniotomy, as epitomised in this paper, tends to the conclusion that, as respects the mode of proceeding on opening the sac, "to follow one method indiscriminately in all cases would be unwise," and that *intra-* and *extra-peritoneal* division should be resorted to, according to the particular circumstances of the case; that, in a majority of cases, the former is not only the more suitable mode, but the only one which is safe, or by which any good can be effected, and that the cases in which the latter is suitable, are those of very short standing, when there is no reason to apprehend the existence of adhesions, or of an unsound condition of the hernia, and cases of large and old hernia, where the more judicious proceeding is to divide the stricture, and not to attempt reduction. A recapitulation of the history of the opinions respecting the plan of not opening the sac is given, including the names of Franco, Paré, Petit, Garengéot, Bonnet of Lyons, Monro Secundus, Sir A. Cooper, Mr. Lawrence, Mr. Key, Mr. Luke, and Mr. Liston, from which it appears that this mode is meeting with deservedly increased favour; and Dr. Pirrie remarks, that he has no doubt that it will continue to do so, if practised under the prescribed limitations. Dr. Pirrie, with all judicious surgeons of the present day, attaches the greatest importance to the operation for hernia being performed early; his decided impression is, that the reason why it is so frequently followed by death, instead of being one of the most successful of the great operations of surgery, is "*too great delay* in resorting to an operation, and the *undue and injurious use of the taxis*."

—Dr. James Duncan, of the Royal Infirmary, Edinburgh, has also furnished a communication in favour of dividing the stricture external to the sac, illustrated by cases. Dr. Duncan remarks, in reference to the existence of the stricture at the neck of the sac, this circumstance cannot be ascertained before the operation, and when it is found there, on operating, the sac may then be opened, and the process completed in the ordinary way, the patient being none the worse for the attempt; for when the stricture is in the sac it is impossible to perform the operation of *extra-peritoneal* incision. Dr. Duncan admits the most serious objection to be the danger of returning the bowel, or omentum, in a state of gangrene; and that whenever there is reason to suspect this, it is the clear duty of the surgeon to proceed in the ordinary way.†

—Mr. Luke has recently published a most interesting and important paper on the same subject, in which the bearings of the question are further elucidated;

* Monthly Journal, May, 1848.

† Ib. March, 1848, p. 633.

some of the most forcible objections which have been made to Petit's operation are materially qualified, and the considerations and statistics embraced by the paper are favourable to the general adoption of the operation without opening the sac.*

21. **INJURIES AND DISEASES OF THE URINO-GENITAL SYSTEM.**—*Strictures of the Urethra.*—An article on the formation of organic stricture in the male urethra, with some remarks on their consequences and treatment, will be found in the Dublin Quarterly,† by Dr. Wilmot. This gentleman states that, in gleet discharges, occurring in the early stage of stricture, he never thinks of prescribing medicine with the expectation of curing the discharge; he passes a plaster bougie, and in general finds a sensitive part, at or near which spot a soft obstruction can be frequently felt, which appears little, if any, impediment to the passage of the instrument; by continuing the use of the bougie every second or third day for some time, the morbid sensibility of the part will be removed, the gleet discharge will cease, and the pulpy obstruction, and all the other thickening will disappear, leaving the urethra free; in such cases it is necessary to pass the bougie for some time after all the symptoms have declined. To prevent relapses in strictures, for all are liable to return after a time, the occasional application of instruments is absolutely necessary for a long while. Dr. Wilmot has found, in his own practice, use for almost all the instruments which have from time to time been invented for the removal of strictures. The plaster bougie is a great favorite with him; it is applicable in recent stricture, and he has succeeded with it in those which are seated either at or behind the bulb. The gum-elastic catheter, the catgut bougie, and the metallic catheter and sound have all their special uses, which are in part explained and illustrated in this paper by plates. In cases of stricture, in which there is a predisposition to rigor, Dr. Wilmot advocates resort to a large dose of opium before the instrument is used. This gentleman states, also, that he has effected some cures of impassable strictures by a tolerably large gum-elastic catheter, or bougie, pressed against the stricture for fifteen or twenty minutes every second day. Dr. Wilmot also urges the necessity of hygienic treatment during the local treatment of strictures.

We have introduced some remarks by Mr. Vincent on the treatment of the irritable stricture of the urethra. (Ext. art. 61, p. 130.)

22. *Catheterism.*—Mr. W. N. Sprong suggests the use of a common syringe to obviate the clogging of the aperture of a catheter during its introduction into the bladder; the pipe to be introduced into the orifice, and the blood to be drawn into the cylinder of the catheter by working the piston briskly, upon which the urine will flow.‡

23. *Vesico-vaginal Fistula.*—A case is recorded in which the bladder protruded into the vagina, and was mistaken by a medical practitioner for a prolapsus uteri. A pessary was actually forced through the vagina into the bladder, and remained there five months, producing the most violent symptoms; it was ultimately extracted, with the greatest difficulty, through the fistula.§ Had the practitioner taken care, on the reduction of the tumour, to explore the neck of the uterus, he would not have committed this error of diagnosis, and many of the poor woman's sufferings would have been prevented.

24. *Urinary Calculus.*—Mr. Bullen extracted from a girl, æt. 14, a calculus comprised of oxalate of lime, with a nucleus of uric acid; the calculus was the size of a swan's egg, measuring around its largest circumference eight inches and a half, and weighing seven ounces. The mass was broken into many pieces, but with some little difficulty; the whole of the fragments were extracted, and the patient appeared to be doing well.||

Mr. Bullen inquires if there be a similar case on record in one so young; he is inclined to consider it unique in the annals of surgery. When we read of a stone weighing 32 ounces,¶ another weighing 2 lbs. 3 oz. 6 dr.,** another 3 lbs. 3 oz., extracted after death,†† and another, removed from the body of a woman at Norwich, almost as large as a new-born child's head,‡‡ there is certainly

* *Medico-Chirur. Trans.*, vol. xxxi., p. 101.

† May 1, 1846, p. 297, et passim.

‡ *Lancet*, June 9, 1848.

§ *Annales des Thérapeutiques*, Feb. 1848, p. 425.

|| *Prov. Med. and Surg. Journal*, May 1848.

¶ *Philosophical Trans.*, vol. xi. p. 843.

** *Idem*, vol. xv. p. 1015.

†† *Id.* vol. xix. p. 310.

‡‡ *Id.* vol. ii. p. 402.

nothing remarkable in the size. From the ages of some of the individuals in whose bladders such enormous calculi have been met with, there can be no room to doubt that at the age of 14, they must have been as large as the one described by Mr. Bullen, but we have no note before us of a calculus having been *extracted* so large as that in one so young.

25. INJURIES AND DISEASES OF THE BONES AND LIGAMENTS.—The surgical reader will find the following articles, and the extracts to which they refer, replete with interest:—*Excision of the Head of the Femur*. Our extracts contain a valuable paper (62, p. 131) upon this subject, by Mr. H. Smith. The operation was first proposed by Mr. Charles White, and first performed in this country by Mr. Anthony White. Mr. Fergusson recalled the attention of the profession to it more recently by resorting to it in the case described in the extract referred to. Mr. Smith urges very strong arguments in its favour; he considers it an operation fraught with the greatest benefit to suffering humanity, and calculated to elevate the “science” of surgery. At the same time, he admits that it is one requiring great care in the selection of cases, and by no means to be resorted to indiscriminately. Mr. Smith’s essay has called forth ‘Remarks on the Operation for Excising part of the Hip-joint in Scrofulous Caries of the Articulation,’ from Mr. H. B. Norman.* The latter gentleman states truly, that there is no great difficulty nor danger in the performance of these operations, but that great caution is necessary. He considers that there are circumstances at the present moment which render it peculiarly incumbent upon surgeons not to be hurried away too rapidly after “novelties or revived antiquities,” alluding, we presume, to the facilities afforded for operation by the discovery of the agency of chloroform. Mr. Norman urges on our consideration the constitutional character of the disease, which may be regarded as a local manifestation of scrofulous cachexia. He considers the frequent coincidence of these local affections with visceral disease as the most serious objection to the proposed operation. It would be a poor satisfaction, he remarks, after excising the head of the femur, and scraping away at a carious acetabulum, to see our patient dying of phthisis; the reply to which objection will unquestionably be, that physical diagnosis will not permit a surgeon of the present day to commit the oversights and errors of the past. Another serious objection, in Mr. Norman’s mind, is the frequent impossibility of forming even a rational opinion of the extent of the disease; the acetabulum may be destroyed, and the cavity of the joint may communicate with large pelvic and lumbar abscesses. Nevertheless, Mr. Norman does not object to the operation in well-selected cases.

Mr. Fergusson operates by a straight incision on the outside of the thigh, and this is the only mode referred to in the above papers. Chelius describes three methods: 1st. A simple longitudinal incision. 2d. The formation of a flap, which has been resorted to by Percy and Roux. 3d. Textor’s oval cut.† The latter consists in an incision beginning two inches above the great trochanter, carried obliquely backwards and outwards, and ending about an inch before the little trochanter; to this follows a second incision, beginning on the front of the thigh opposite the point where the former ended, carried obliquely outwards and upwards, and meeting it at rather an acute angle above the great trochanter.

26. *Excision of the Trochanter and Neck of the Femur*.—In Mr. Smith’s essay, just referred to, we are also informed that within the last few weeks‡ an operation upon the hip, of an interesting character, has been performed by Mr. Fergusson, in King’s College Hospital. The patient was a young woman, æt. 20, who had for sixteen years suffered from disease of the hip-joint. She had been under Mr. Fergusson’s care for a few months. The symptoms indicated that disease of an incurable nature existed, and that, too, in the upper part of the femur alone. There had been an abscess of some duration, and a sinus led up towards the hip. The signs also were such as led the surgeon to suppose that dislocation had taken place. Mr. Fergusson, therefore, determined to cut down upon and remove the diseased portion of bone; in fact, his intention was to perform his operation of excision of the head of the femur. On making the inci-

* Lancet, July 8, 1848. † System of Surgery, vol. ii. p. 977. ‡ Lancet, April 15, 1848.

sion, however, for this purpose, that gentleman discovered that he had been mistaken in his opinion about dislocation; none existed, but the head of the femur was firmly ankylosed to the acetabulum. He, however, found the source of the mischief in the neck of the bone; he, therefore, sawed through below the trochanter, and through the neck, taking the intermediate diseased parts away. The upper and back portion of the neck was perforated by a round hole, through which was seen a portion of bone, nearly loose, in a necrosed condition; the disease slightly encroached upon the trochanter.

Thus this operation, strictly speaking, was excision of the trochanter and neck of the femur. It may be likened to a proceeding which has been put in force by Barton, of Philadelphia; and more lately by M. Maisonneuve, at the Bicêtre. (*Medico-Chirurgical Journal of Paris*, Jan. 1848.) In both these the femur was divided, in consequence of ankylosis, and the patients were much benefited. Mr. Ferguson did this, and also removed dead bone.

The patient was attacked with erysipelas in the wound; it extended over the hip and extremity, and, unfortunately, destroyed her sixteen days after the operation. At the post-mortem examination it was found that there was extensive suppuration in the cellular tissue in almost every part of the thigh, leg, and foot; the wound and extremity of the bone were in a condition similar to that in which the parts are found in a stump, when death occurs within the first twelve or eighteen days. There was no disease in the pelvis. Mr. Fergusson removed the great trochanter some time ago, in the case of a woman who had suffered severely from disease about the hip. All the symptoms indicated that the joint itself was sound, but that the trochanter was in a carious condition. He, therefore, made an incision over that process, and removed it. This case turned out very successfully.

27. *Ankylosis*.—In an article ‘*On the separate and combined Effects of the Cold Douche, and gradually increased motion, in the treatment of Incomplete Ankylosis*,’* Dr. L. Fleury arrives at the following conclusions. 1. In certain cases of incomplete ankylosis, in which forced motion is useless or hurtful, cold excitant douches are to be preferred to all other therapeutic agents, producing a very favourable effect, by rendering the capillary circulation and organic absorption more active, modifying the vitality of the tissues, and thus restoring the extra- and intra-articular parts to their physiological conditions. 2. In cases of incomplete ankylosis, which imperiously demand the application of active motion, but in which this is impracticable, owing to the pains, articular irritation, and symptoms of general reaction which it provokes, cold sedative douches occasion these symptoms to subside, and allow the surgeon to have recourse to graduated motion better and sooner than any other known therapeutic agent. 3. In cases of incomplete ankylosis, demanding the application of forced motions, and where these are practicable, the cure is always quicker, and sometimes more complete, by associating the action of cold excitant douches with that of graduated motion.

The paper contains four cases illustrative of the author’s principles. The first was a case of incomplete ankylosis of the shoulder-joint “of the first degree,” from rheumatism. This was cured in two months, simply by a cold douche twice daily for about five minutes, consisting of a general shower-bath, and a local energetic douche, three centimetres in diameter, directed on the shoulder-joint. The second was a case of enlarged and stiff knee, the result of rheumatism; it presented the appearance of a white swelling, the limb being emaciated above and below the joint, which was flexed at an angle of about 140°; the condyles of the femur were enlarged. A cure of this case was obtained in about eight weeks, by the use of the douche twice a day for ten minutes. The third was a case of partial ankylosis of the shoulder-joint, from an injury, which Professor Roux had pronounced an old ankylosis, that would probably continue for life. There was atrophy of the deltoid, and scarcely any motion in the joint. Douches, with forced motion of the joint gradually increased, produced a cure in ten weeks; the deltoid had recovered its volume and contractility, and the limb was capable of all the necessary movements. Shower-

* Archives Générales, July 1848, p. 317.

baths, as well as the local douches, were continually employed in this case. The case is given as illustrative, in the first place, of the utility of the sedative effects of cold water in allaying irritation and pain; and, secondly, of the excitant effects of the same element applied as a douche, by which it becomes a powerful adjuvant of the motor powers, modifying the vitality of the muscular and fibrous tissues. In the fourth case, which we have condensed and introduced into our extracts (art. 63), the efficacy of the treatment is illustrated still more remarkably.

28. *The Treatment of Ununited Fractures.*—We have recently placed before our readers several new proposals for the management of these cases.* Dr. Miller has suggested that the principle of "subcutaneous incision" may be made available,† and he quotes from Andral as follows:—That a strong needle, having been passed obliquely down to the part, should have its edge freely moved about in all directions, so as to cut up the ligamentous bond of union, as well as the dense investment of the ends of the bones, the needle being then carefully withdrawn, and the puncture covered by isinglass plaster. The parts will probably be reduced to a state very similar to what attends an ordinary fracture. At the first, a pouch of blood will form; the blood will be absorbed; fibrin will take its place; inflammation being absent, the plasma will be organized, and probably form an excellent imitation of the ordinary provisional callus; while, at the same time, secretion and organization may advance from the ends of the bone; and consolidation, as by definitive callus, be completed.

The connecting materials of the "false joint" are disrupted and excited, not destroyed. They are valuable towards the formation of bone, when brought into and maintained in a state of moderate vascular excitement. A state of active hyperæmia generally precedes the osseous transformation of the fibrous, cartilaginous, and fibro-cartilaginous tissues. M. Rayer observed that, when he excited an artificial irritation in the fibro-cartilage of a rabbit's ear, the part was at first softened; a yellow matter was next deposited in its texture; and finally, a calcareous deposit was formed, and a true ossification produced. M. Cruveilhier likewise observed different portions of periosteum, ligaments, and cartilages pass into the osseous or ossiform state, under the influence of different stimulating applications.‡

—Five cases of ununited fracture, treated successfully by Mr. W. B. Page, according to different methods, were detailed to the Medico-Chirurgical Society of London in March last.§ Mr. Page remarks that in no class of cases is a correct appreciation of the causes of the malady of more importance than in these. The non-union may depend upon a purely local or a general cause, and the treatment must be varied accordingly.

While the present sheet was in the press, we received a specimen of *Plates on Surgical Anatomy*, by Mr. Maclise; we beg to call the reader's attention to them, not less for their fidelity than for a lowness of price (5s. per number) which brings the work within the means, we trust, of the majority of the profession.

* Half-Yearly Abstract, Vol. VII. p. 104; idem. p. 268.

† Monthly Journal, June 1848, p. 843.

‡ Archives Générales, Avril 1848, p. 480.

§ Transactions, vol. xxxi. p. 135.

III.

REPORT ON THE PROGRESS OF MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

BY THE EDITOR.

AMONG the works recently published in connexion with the subject of the present Report, we have to notice a volume, entitled 'Females and their Diseases,' by Dr. Meigs, of Philadelphia; a third edition of Dr. Ashwell's 'Practical Treatise on the Diseases of Females;' a second edition of Dr. Lee's 'Clinical Midwifery;' and a second edition of Dr. Rigby's 'Memoranda for Young Practitioners in Midwifery.'

—The work of Dr. Meigs, which purports to be a series of familiar letters to his pupils, is destitute of any regular arrangement which would entitle it to be regarded as a treatise on the diseases of females, but is made up of clinical remarks on some of the more frequent or more important of those diseases selected from the vast field of female pathology. As regards style, it is not in our power to say much in commendation; there is a mixture of gossiping colloquiality with pedantic verbiage, which is ill suited to the composition of a scientific work. Setting aside these faults, however, we are bound to state that every chapter is replete with practical instruction, and bears the impress of being the composition of an acute and experienced mind. There is a terseness, and at the same time an accuracy, in his description of symptoms, and in the rules for diagnosis, which cannot fail to recommend the volume to the attention of the reader.

The work consists of forty-four letters, of the most important of which we shall proceed to give a brief account. In the third letter, the author enters upon the discussion of the peculiarities of the sex, asserting that, as the ovary is the great characteristic organ of the female, and as the active tissue of the ovary is that which Von Baer calls the stroma, that therefore *stroma is sex*. He then gives a minute anatomical description of the ovum and its constituent parts, which differs but little from the views entertained by Bischoff, Valentin, and others, a full account of which will be found in our former Reports on Anatomy and Physiology. After, in a subsequent letter, pronouncing a highflown but well-deserved eulogium on the female sex, he proceeds, in Letter 5, to an account of their diseases.

The first subject noticed is relaxed symphysis pubis, which he regards as a strictly pathological state, in opposition to the opinion of Moreau. The cure is rest. He also here introduces incidentally the value of setons of the mons veneris in affections of the bladder. The subjects next mentioned are oedema, rupture, warts, &c., of the labia, and cohesion of the nymphæ, none of which require special mention.

In subsequent letters the author discourses upon the diseases of the vagina. In speaking of narrowing and obliteration of this canal, he alludes, as a frequent cause, to a species of ulceration which is apt to supervene upon childbirth, and which is extensive, and seldom heals without inducing great contraction. He describes a case, the cicatrization of which reduced the upper part of the vagina to the dimensions of a crow-quill. Under the head of diseases of the clitoris, the author alludes to a very remarkable case, also published in Dr. Ashwell's second edition, in which this organ arrived at an enormous size, and consisted of cysts containing fluid resembling tar.

The author's remarks on displacements of the womb are chiefly confined to prolapsus, retro- and ante-version, and inversion. Retroflexion is dismissed in a few words. He has met with one specimen of flexion of the junction of the fundus with the cervix, but with several in which the flexion occurred in the

cervix itself. He does not admit of any general signs leading to its diagnosis, and makes no allusion to the uterine sound of Dr. Simpson.

The remainder of the diseases of the womb noticed by the author are polypus, in Letters 19 and 20, cancer of the womb, physometra, and hydatids. Cancer, Dr. Meigs believes to originate in chronic inflammation. His suggestions for its relief are valuable, but not otherwise than usual. He speaks favorably of the actual cauterization, so much employed by M. Jobert. There are many cases of hard and hypertrophied os and cervix which are mistaken for cancerous deposit: his treatment of them is bleeding, rest, nitrate of silver locally, and the bichloride of mercury in sarsaparilla, which is also much relied upon by Dr. Oldham.

The existence of physometra as a disease is denied; but the presence of air in the uterine cavity is, in accordance with general experience, admitted. Much the same opinion is expressed by Dr. Ashwell (p. 523). The latter regards the presence of air as produced by decomposition of the retained secretions, placenta, &c. Dr. Meigs believes that the uterus is often filled with air by suction, a vacuum being formed as the womb dilates, and rises into the abdomen after its contraction, subsequent to the expulsion of the child.

The remainder of the volume is taken up with the diseases of the ovaries, menstruation, hysteria, and the diseases of pregnancy, puerperal fever, phlegmasia dolens, puerperal convulsions, &c. The author's remarks on these subjects, where worthy of mention, will be given in a future section of this Report.

—Of the 'Practical Treatise on the Diseases of Females,' by Dr. Ashwell, the profession has long since pronounced its opinion, and that it is a favorable one is sufficiently evident from the fact that a third edition has been called for. Without enumerating the specific subjects on which additions and improvements have been made subsequent to the last publication, we may state, in general terms, that great pains appear to have been taken to embrace everything in the progress of the department to which the work belongs that can be made available at the bedside. We shall notice some of these subjects more in detail as we proceed.

—Dr. Lee's useful text-book, 'Clinical Midwifery,' has reached a second edition. No alteration appears to have been made in its arrangement beyond the introduction of the reports of 145 additional cases of difficult pretermatural and complicated labours.

—Dr. Rigby's 'Memoranda' are, as might be expected from its author's reputation, sound and good, and may occasionally prove of service; but we consider that the man whose memory is in so feeble a condition as to require this condensed nutriment has no business to be at the bedside of a parturient female.

§ I.—*Anæsthesia in Midwifery.*

1. *Religious Objections.*—Since our last Report, Dr. Protheroe Smith* and Mr. Bainbrigge† have each published a pamphlet, pointing out the absurdity of the objections made to the use of chloroform in midwifery, upon religious grounds. As far as their main arguments are concerned, both these writers rely upon the philological interpretation of the word erroneously translated "sorrow;" but as they add nothing on this point to the information so learnedly adduced in Professor Simpson's pamphlet, previously noticed (see Half-Yearly Abstract, Vol. VII, p. 252), we do not feel ourselves called upon to enlarge upon the subject in the present Report. Both pamphlets are written in a tone of religious feeling, for which an unthinking public are not apt to give our profession credit, and will, doubtless, each assist to complete the demolition of these untenable prejudices, so ably commenced by Dr. Simpson.

2. *General Objections.*—In a pamphlet entitled 'Arguments against the indiscriminate use of Chloroform in Midwifery,' Dr. William Merriman has endeavoured to inculcate a more moderate confidence in the utility of that agent than is entertained by many. Although we believe that too much caution cannot be

* Scriptural Authority for the Mitigation of the Pains of Labour. London, 1848, p. 52.

† Remarks on Chloroform in Alleviating Human Suffering. London, 1848, p. 40.

displayed in the use of an agent of such power, we nevertheless feel constrained to state that Dr. Merriman has not, in our belief, made out a strong case for its less frequent employment in midwifery.

The best answer, however, to the objection to chloroform of all denominations, is to be found in a recent 'Report on the Progress of Anæsthetic Midwifery,' by Professor Simpson,* of which we now proceed to give an analysis. In this important memoir, the author gives, first, a brief introduction of anæsthesia in midwifery, first as it was induced by ether, and subsequently by chloroform. He then lays before us the following record of the

3. *Results of Anæsthesia in Midwifery.*—Up to the present time Dr. Simpson has, in his own practice, delivered 150 patients in a state of anæsthesia, with the following results:

To children.—All the children were born alive except one, which was expelled dead and decomposed, prematurely. Subsequently one other died, with symptoms of cyanosis. Of the remainder, not one has, up to this time (October), shown symptoms of any of the cerebral affections which were rather too freely prognosticated.

To mothers.—In all cases the physical sufferings attendant upon the latter stages have been alleviated or abolished. With one exception, since he has used chloroform, none of the patients have been aware of the last throes. With ether the results were not always so satisfactory. In addition to this direct advantage, that of relieving the anxiety caused by anticipated suffering, with its consequent depressing effects, has been often observed. In most cases the mothers, on waking from the anæsthetic sleep, have expressed surprise at their feelings of strength, contrasted with their former experience; and in Dr. Simpson's experience, by annulling the parturient *shock*, the chances of secondary vascular excitements have been diminished. His firm conviction is, that, since he has employed chloroform, he has seen more rapid recoveries, and fewer puerperal complications. Two patients died of puerperal fever, but this happened during an epidemic, which also destroyed numbers who had not been under anæsthetic influence.

In addition to the 150 cases which occurred in Dr. Simpson's own practice, he has witnessed a large number in hospital and consultation practice, as well as in various obstetrical operations, as turning, craniotomy, and the forceps. In all such, the superinduction of anæsthesia has appeared to him of positive benefit; for not only is the mother passive and motionless, but the dilatation of the passages is more facile, and the extraction of the fœtus consequently more readily accomplished.

In confirmation of his opinions as to the safety and value of chloroform in midwifery, Dr. Simpson has been at the pains of collecting testimony from various sources.

Thus, in the Maternity Hospital of Edinburgh, according to the report of Drs. Duncan and Norris, 95 women have been delivered under its influence, of which 88 were natural, and 7 morbid labours. In the 88 cases, one only died, convulsions coming on after delivery, and proving fatal after six days; she was the subject of fatty kidney. There were 5 still-born children, 2 of which were premature; the proportion being thus 1 in 17. In the Dublin Hospital, the proportion is 1 in 15. Of the 7 morbid labours, there were 1, short forceps—child dead, mother recovered; 2, long forceps—1 mother dead from sloughing of the passages, both children living; 4 cases of turning—1 dead from ruptured uterus, the others did well; 3 children still-born. The authors of the report further state that "they can confidently say that the recoveries have been more perfect and speedy than before. . . . Further, there has been, since the introduction of chloroform, fewer than formerly of rigors, ephemeral fevers, &c.

—In the Westminster Lying-in Hospital, chloroform has been used by Dr. Haartman in twenty-five cases, mostly primiparæ. This gentleman found that, under the full effect of chloroform, the uterine contraction became less frequent, but became more so, though shortened in duration, as the effect passed off. He

* Monthly Journal, Oct. 1848.

has never known the pains entirely to cease; the relaxation of the passages was not evident. The patients were generally entirely unconscious; but some knew what was going on, without feeling pain. The mothers all recovered speedily, with the exception of one, who, eight days after delivery, had symptoms of paralysis, which subsided in about a month. This writer did not observe any particular effect of the chloroform upon the children.

From private practitioners Dr. Simpson has received a large mass of favorable evidence.

Dr. Keith has used chloroform in twenty-four cases, keeping the patients under its influence from half an hour to eight hours. He states positively that he has seen "no serious symptoms which could be traced to chloroform, either in the mother or child." The recoveries have been good, and the women have felt decidedly stronger than on former occasions.

Dr. Moir has never met with a single case where unpleasant effects, either to mother or child, could be traced to its use. He thinks that the second stage of labour is much accelerated by the relaxation of the perineal tissues.

Dr. Malcolm, Edinburgh, has employed chloroform in thirty cases of labour with satisfactory results. He has kept patients under its influence for six hours, without any unpleasant effects. The mothers have all made rapid recoveries, which is the more remarkable, as most of the cases were primiparæ. He has in general employed about an ounce of chloroform per hour; he has never seen uterine contractions arrested.

Dr. Thompson, Edinburgh. Experience analogous to that of Dr. Simpson; considers the relaxing effects upon the soft parts undeniable.

Mr. Carmichael, Edinburgh, has exhibited it in twenty-six cases. Recoveries unusually speedy; has heard monthly nurses complain that, by expediting convalescence, it will diminish their profits. All the children alive, and doing well.

Dr. Purdie, Edinburgh, has given it in seventeen cases; is confident that it shortens the duration of labour.

Dr. Cumming, Edinburgh. Experience in thirty-five cases. All have recovered unusually well. Two cases had flooded severely in former labours; but had no hemorrhage after the chloroform. All the children born alive; none have suffered from the use of this agent. "In short, I am compelled to say, that all my cases have been so successful, &c., that if there be any sin connected with chloroform, it is chargeable on those who refuse to administer it."

Mr. Stallard, Leicester, in thirty cases, has had no flooding, though two of the patients were never free from it in former labours; is of opinion that chloroform exerts no perceptible influence on the child.

Dr. Protheroe Smith has records of 125 cases of labour, in which chloroform has been used; all of which, with one exception, have done well. In several there was no flooding, though previously hemorrhage had ensued. In nearly all, the getting up has been more speedy, requiring no opiates or purgatives. He has kept patients under its influence from half an hour to twenty-eight hours.

Mr. Lansdown, Bristol, has given chloroform in twenty-six cases. He believes that it may be given with impunity as early in labour as we please, the only objection being the expense of material. The greatest length of time he has employed it is sixteen hours and a half. Most of the patients recovered rapidly. Mr. Lansdown finds no difference as to expulsion of the placenta, and the subsequent discharge.

The above quotations, from a numerous correspondence of Dr. Simpson's, sufficiently show the safety and advantage of chloroform in human parturition. Evidence of a similar tendency is also furnished by Mr. Ceely, of Aylesbury; Dr. Krieger, of Berlin; Dr. Rigby; Mr. Spencer, Isle of Man; Dr. Paton, Dundee; Dr. Dyce, Aberdeen.

4. *Mode of Exhibition, Dose, &c.*—In the same report, Dr. Simpson exhibits his method of using chloroform. Occasionally, in the early stages of labour, he has given it in small doses, so as to obtund sensibility without destroying consciousness; but this plan, as a general rule, appears to be injudicious, and, upon the

whole, he prefers to induce a deeper anæsthesia. In this case, the uterine contractions are occasionally suspended; but they are resumed on withdrawing the chloroform. When this is the case, a few inhalations repeated with each uterine contraction will keep the patient sufficiently unconscious; and this may be maintained for hours. The amount of unconsciousness which may be exactly necessary, and not too great, is, observes Dr. Simpson, only to be known by experience.

At the latter stage of labour, when the head is passing, the anæsthesia requires to be deeper; and the relaxation of the soft parts induced by this is observed to accelerate the extrusion of the child. In obstetric operations, the unconsciousness must be as complete as in surgical operations.

Dr. Simpson further remarks, that the degree and depth of anæsthesia which different patients are capable of enduring without interfering with the parturient act varies with the individual. In administering chloroform he always prefers the handkerchief. The quantity he pours on at first is usually three or four drachms. He takes care that plenty of air is admitted. The time at which he generally commences its use is towards the commencement of the second stage of labour; but if the pains are severe, he begins with it earlier.

In the latter pages of the report, Dr. Simpson reconsiders the objections religious and general.

§ II.—*Diseases of Women Unconnected with Pregnancy.*

5. *The Relations between Functional Derangements of the Liver and Uterus.*—Dr. Butler Lane has published a very useful pamphlet, pointing out more distinctly than has been usually done the sympathetic relations existing between the liver and uterus, both in health and in disease. Although this relation has not, perhaps, been sufficiently insisted upon, *totidem verbis*, it has, nevertheless, been pretty generally acknowledged by the profession in practice. It is impossible, in fact, for any one not to have observed the evident connexion between *alvine* and *uterine* derangement, and considering how materially the condition of the intestines is dependent upon the due elaboration and excretions of the bile, the part taken by the liver in this chain of sympathy is sufficiently obvious. Dr. Lane was more particularly induced to study this subject, during his researches on oxide of silver in uterine affections. One of those in which he derived most benefit from the medicine is menorrhagia; but he found that there was one form of this disease which resisted the oxide, but speedily subsided under the use of mercurial alteratives. Reflecting upon this, he came to the conclusion that in these instances a congested state of liver existed. The relief of which caused the expulsion of the menorrhagic discharge.

In support of his views, Dr. Lane adduces observations respecting the relative weight of the liver and the whole body, in females at various epochs of life, and further remarks upon the fact that menstruation rarely occurs without concomitant *alvine* derangement. His opinions also derive support from the action of medicine in chlorosis, from the occurrence of hepatic disturbance in dysmenorrhœa, at the cessation of the menses, and in pregnancy. The pamphlet concludes with several well-selected illustrative cases.*

6. *Strumous Disease of the Uterus.*—Dr. Lever records the case of a woman, æt. 58, who, some time before her death, complained of irregularity in the action of the bowels, with a feeling of bearing down, and pain over the hypogastric region. On examination, *per vaginam*, the body of the uterus was found to be enlarged, and pressing backwards upon the rectum. On a post-mortem examination, a small tumour was found in the right breast. A large tumour was situated between the uterus and rectum, and pointing towards the feet. Internally it was a light yellow colour, deepening into a reddish hue towards the circumference. The uterus itself was large, having several irregular elevations on its surface. The parietes were thick and dark-coloured. When the organ was squeezed, a curdy matter escaped through the os.†

7. *Rupture of the Unimpregnated Uterus.*—M. Gozzo, of Naples, records the fol-

* On Functional Derangement of the Liver, associated with Uterine Derangement, &c., p. 32.

† Medical Gazette, April 14, 1848.

lowing extraordinary case. A woman, æt. 34, the subject of dysmenorrhœa, and sterile, was examined. The uterus was felt above the pubis, as large as the fifth month, but perfectly destitute of inequalities of its surface. The uterus continued to increase until its fundus reached the xiphoid cartilage; the menstrual discharge was irregular, and followed by leucorrhœa. She was shortly seized with symptoms of intestinal obstruction, from which she was recovering, when she was suddenly seized with collapse and abdominal pain, and died in less than twenty-four hours. After death the peritoneal cavity was found to be almost filled with pus, mingled with serous fluid and fetid gas. The uterus adhered to the lateral parts of the abdomen, from the pubis as high as the umbilicus, filling the iliac regions; it was covered by the large omentum. The intestinal surface was irregular, and covered with fungous excrescences and tubercular masses of various sizes and forms, its cavity being filled with a white inodorous pus. The uterine walls were thickened, and contained several small abscesses, some of which were close to its peritoneal surface. The posterior aspect of the organ exhibited a rent, through which the matter had escaped into the abdomen.*

8. *Prolapsus Uteri*.—Dr. Meigs considers the distress of females suffering under prolapsus uteri as belonging to the class of neuralgic disorders, and has met with many cases of severe neuralgia of the abdominal regions, which had no other origin. He gives one remarkable instance, which will be found in a previous page (Abstract, p. 156), in which the neuralgic tenderness simulated acute peritonitis. He criticises the opinion advanced by Dr. Bennet and others, that prolapsus is often preceded and induced by engorgement of the os and cervix, disbelieving that the addition of an ounce to the weight of the organ can cause its descent, when it does not prolapse in many cases of uterine tumour and in pregnancy.

In the treatment of prolapsus uteri, Dr. Meigs has great reliance on the pessary, therein differing from many recent writers. Dr. Ashwell, also, (p. 575,) expresses his conviction that a cure may frequently be effected by their use alone. The ill effects which have occasionally been recorded are regarded by both to have been due to improper shape and adjustment of the instrument, and want of cleansing it. Of Dr. Hull's abdominal supporter Dr. Meigs speaks with great contempt. After a certain amount of benefit has been derived from the use of the pessary, the relaxed tissues of the vagina may be greatly strengthened, and the tendency to prolapse prevented by the medicated "sachet" mentioned in a former page† (p. 170.)

9. *Retroversion—Retroflexion*. We have already remarked that Dr. Meigs makes but little allusion to the existence of retroflexion of the womb; Dr. Ashwell also devotes but little space to this displacement, having apparently, in a long experience, met with only two well-marked cases. He contents himself with stating, in general terms, that retroflexion and retroversion differ only in degree, and that these symptoms are, therefore, in a great measure the same.‡

—Dr. Oldham, in an essay which is too important to be treated briefly, and which we shall, therefore, postpone to our next Volume, is disposed to deny its existence altogether. The only approach to it which he has been able to meet with has been a particular form of retroversion which he describes, and in which the posterior wall of the uterus is much hypertrophied, and by its circumscribed enlargement accurately simulates a deflected fundus.

—In alluding to the more recent recommendations for the mechanical treatment of retroflexion, Dr. Ashwell passes a somewhat strong censure on the instruments employed. He observes, "I cannot avoid thinking that the uterine sound not only detects but makes many of the supposed displacements. All practical men know that the uterus varies naturally in position, in its degrees of mobility and immobility, and in the influence exerted upon it by a loaded or empty rectum or bladder; and it must be kept in view that the curve of this steel bougie may not be the curve of the uterus; and if, therefore, it is to be introduced at all (and I wish it were less frequently so), the normal position of the organ thus spiked must be made to follow the curve of the instrument, entering, and thus unnecessarily

* Archives Générales, xviii, 104.

† Op. cit. 177.

‡ Op. cit. 626.

intruding upon its cavity." Of the uterine supporter he speaks in still more unfavourable terms.*

For further information on these displacements, and their treatment, we refer the reader to Arts. 67, 68.

[In regard to the uterine sound and supporter, we feel bound to state that we have, on several occasions, conversed privately with parties in the habit of using them, and that they have each expressed the opinion that much caution is necessary in their employment, and that serious results have followed their introduction, of which the medical world knows nothing.]

10. *Ulceration of the Os and Cervix Uteri*.—Dr. Mitchell recommends the application of the ethereal solution of gun-cotton to the ulcer, which must be previously wiped dry. Several coatings are given by means of a camel's hair brush, each being allowed to dry before the next is applied. The author states that he has now given it a fair and impartial trial, and has no hesitation in recommending it as a most useful remedy.†

11. *Excision of the Cervix for Carcinoma*.—A case of this operation is narrated by Mr. Atlee. The wound healed after the repeated use of caustic, but the patient died shortly after.‡

—A case of excision of the anterior lip of the os uteri, by Dr. Clay, will be found among other extracts. (See art. 71.)

12. *Diseases of the Vagina—Fibrous Tumour*.—Mr. Curling removed a tumour of this nature, which had grown to the upper part of the vagina by a broad pedicle. Considerable hemorrhage followed its excision, which was checked by plugging the vagina.§

13. *Diseases of the Uterine Appendages—Ovariectomy*.—Three additional cases of this operation have recently been recorded; two fatal, the other successful.

Of the fatal cases, in the first narrated by Mr. Potter, it was found on opening the abdomen, that adhesions previously unsuspected existed; the cause of death was peritonitis.||

In the second, related by Mr. Arnott, the removal of a multilocular cyst was attempted by the small incision. Adhesions to such an extent were found, that the operation was not completed. The unfortunate patient died in seventy-four hours.¶ Dr. Clay, in alluding to this case, attributes the failure to the employment of the small incision.

The successful case appears in the 'Journal des Sciences Médico-Chirurgicales.' The patient, æt. 25, had been in health till 1842, when symptoms of ovarian dropsy showed themselves. She was tapped, for the first time, in May 1844, and the operation was subsequently repeated fifty times! Ovariectomy was performed on the 15th September, 1847. The patient having inhaled ether, an incision three inches in length was made to the left side, and parallel to the linea alba. The sac was punctured, and the excision then extended to seven inches. The tumour was then laid open more freely, and its contents, which were of a mixed serous and puriform character, discharged. The pedicle, which was on the left side, was pierced by a needle armed with a double ligature, was then excised, after being tied on either side. The tumour weighed nine pounds, and was made up of cartilaginous, gelatinous, and cerebriiform matter. The patient was convalescent at the end of a month.

—Dr. Clay is engaged in the publication of a history of ovariectomy, which when completed, will give much assistance in placing the value of the operation on a proper basis.**

—Respecting the feasibility of the operation itself, it may be stated that both Dr. Meigs and Dr. Ashwell express themselves unhesitatingly as opponents, both writers basing their objections upon the overpowering statistical evidence against it, adduced by Mr. Phillips, Mr. Safford Lee, &c. This evidence, having been given in a former volume, it is unnecessary to reprint.

14. *Treatment of Ovarian Dropsy*.—In a valuable series of papers published in the 'Lancet,' Dr. Tilt has passed in review the several methods of treating

* Op. cit. 636.

† Dublin Medical Press, Oct. 4, 1848. ‡ American Journal of the Med. Sciences, July 1848.

§ Med. Gaz. March 3, 1848. || Ibid.; June 23. ¶ Med. Gaz., and Obstetric Record, No. 12.

** British Record of Obstetrical Science.

ovarian tumours, both medicinal and operative; the practical deductions from which may be thus summed up:

1st. Small and moderate-sized tumours may be cured by iodine and its preparations, given in large doses internally, as well as used externally, the contents of the cyst being absorbed by the cyst, or else voided by rectum or per vaginam.

2d. That tapping, employed as a palliative, and without any view towards a radical cure, should be deferred as long as possible, modern statistics having confirmed Morgagni's opinion of the danger of the operation.

3d. That when the cyst is voluminous, and felt bulging in the vagina, there is a sufficient number of successful cases to warrant the puncture of the cyst per vaginam, an India-rubber sound being left in the cavity of the cyst, and moderate pressure being made on the abdomen.

4th. That the rupture of monolocular ovarian cysts, with effusion of their contents into the peritoneal cavity, instead of being attended with alarming symptoms of peritonitis, is, generally speaking, unaccompanied by any formidable symptom whatever. Thus warranting the subcutaneous incision of the cyst.

5th. That the ulcerative opening of the cyst, after adhesion of its walls to the adominal parietes (the new plan proposed by the author) is supported by the complete success in the case recorded, and by the success attending a somewhat similar treatment of hydatid cysts of the liver.

6th. That ovariectomy should be reserved for cases of multilocular ovarian cysts, and those cases of unilocular cysts with solid deposit.*

§ III.—Pregnancy—Labour—The Puerperal State.

15. *Signs of Pregnancy.*—In an essay recently published on the mammary secretion, Dr. Peddie insists upon the diagnostic importance of the presence in the breasts of a fluid containing milk-globules, as a sign of early pregnancy, and one in which almost implicit trust may be placed in a first conception. The fluid is described as serous and viscid, but under the microscope it exhibits milk-globules, agglomerated in masses together, with oil-globules and colostrum-granules. Beyond the limit of the first pregnancy, the author does not urge the value of the milk test, for when a woman has once suckled, the fluid is apt to linger in the breast a considerable time. Compared with the ordinarily recognised signs for distinguishing a first pregnancy from simple suppression of the menses, the author thinks that there is none to be compared with the milk test.†

16. *Early Pregnancy and Delivery of a Living Child.*—The following case, though far from unique, as regards the fact of impregnation, is remarkable inasmuch as the infant was born living and healthy. The facts are as follow. At the Coventry Assizes, a girl aged twelve years and a half, in an advanced stage of pregnancy, preferred a charge of rape against her uncle. She continued in good health till delivery, which took place on the 16th September last. Mr. Smith, of Coventry, who furnishes the details of the case, attended her in labour, which was of unusually short duration. The subsequent symptoms were equally favourable; the lochia ceased after a few days, and the secretion of milk was so copious as to suggest to the mother the idea of seeking the place of wet nurse. The infant, at birth, was long, slender, and emaciated, but subsequently improved in appearance. The mother began to menstruate at ten years old.‡

17. *On the Laws which regulate the Duration of Utero-gestation.*—Dr. Clay has, for some years, been engaged in inquiries into the conditions which regulate the terms of utero-gestation, with the object of ascertaining the law by which its duration is governed. The results of these inquiries he has recently made public.

He determines, in the first place, that utero-gestation is, as to time, entirely a question of age, and that when this is known the term may be fixed with certainty. Within the last twenty-five years he has attended eleven cases of labour, four of which occurred below the age of fifteen years, seven under the sixteenth year. The term of impregnation was clearly made out in most of these cases, and in all the labour came on apparently at the full period of pregnancy. In fine, the gestation did not exceed 267 days. In two the dates could not be de-

* Lancet, Nov. 11, 1848. † Monthly Journal, August. ‡ Medical Gazette, Nov. 4, 1848.

pended upon. The remaining four continued beyond the time calculated for their ages, but the discrepancy is accounted for on another ground, which Dr. Clay subsequently notices. He also has attended two labours at the age of fifty-two, in both of which the date of impregnation was correctly ascertained; in these the gestation lasted 290 days. In two cases, one *æt.* twenty-five, the pregnancy was 274 days, and in another, *æt.* thirty-five, it was 278 days.

The influence of the age of the female on the period of gestation in the lower animals, as is also its dependence on the age of the sire, appears to be well known to cattle-breeders, and a paper on the subject appeared some time back in an American medical journal, which also gave the result of experiments on the human female. Dr. Clay has compared them with his own observations, and has made out the following table of the duration of pregnancy at the several ages below asserted :

Years.	Days.
15½	267
17	270
19	272
25	274
30	276
35	278
44	284
52	290

This table shows plainly that gestation is prolonged in ratio with the age of the female, but, as Dr. Clay candidly admits, further experience is required to invest the observations with the whole force of truth.

The other law alluded to as influencing the duration of gestation is, that it depends upon the age of the father as well as of the mother. Dr. Clay states that his attention was first directed to this point by the four cases of early pregnancy above mentioned, which he observed to extend over a longer period than their ages would *per se* have warranted. It is remarkable that each of these was *impregnated by a man much older than herself*. This led him to strike an average of the ages of both parents as the rule whence to judge of the duration of the pregnancy; and to anticipate that a longer term of gestation may be expected when a young female is impregnated by an elderly male, than would be calculated from *her* age; and *vice versâ* that a shorter period would be observed than is natural to her age, when an elderly female is impregnated by a young man.*

These observations are very important, and though, without further confirmation they cannot be implicitly received, they will doubtless have a due influence in modifying the authority of data arising out of loose calculations, based upon the last appearance of the menstrual discharge.

18. *The Periodoscope*.—In connexion with the subject of gestation, we take the opportunity of mentioning an ingenious instrument for the ready calculation of the periodical functions of the sex, invented by Dr. Tyler Smith, and named by him the Periodoscope. It consists of a moveable circular dial, upon which the months and days are engraved, fixed on a pivot in the centre of a large plate, upon which are numbered the different conditions of the reproductive system, as conception, abortion, premature labour, hemorrhage, labour, &c. By a knowledge of the date of conception, say November 14th, and fixing the moveable plate opposite to the point on the fixed plate which indicates *conception*, the observer is enabled at once to see that, allowing 280 days for gestation, labour may be expected about the 20th of August; he will also know the dates at which any of the accidents common to gestation may possibly occur, taking it for granted, that is to say, that Dr. Tyler Smith is correct in the statement that the ovarian or menstrual periods are the times at which abortion, hemorrhage, &c., are most likely to supervene. This dial is made in cardboard, and affixed to a small volume, in which its uses and applications are fully explained.†

19. *Prolonged Gestation*.—The following case of gestation, prolonged to probably 296, certainly to 293 days, occurred under the personal observation of Dr.

* Obstetric Record, No. 11, 1848.

† The Periodoscope. London, 1848.

M'Illwain, by whom it is reported. The parties are of unexceptionable character, and the statement of the husband that no intercourse was had after the night of the 4th of July, may be implicitly relied on.

Mrs. ———, whose character is above suspicion, was visited on the evening of July 1st, 1847, by her husband, whose business had compelled him to reside for more than a year before in a distant state. The husband remained till the morning of the 6th of July, and then departed, and did not return for more than nine months. On the nights of the 1st, 2d, 3d, and 4th of July there was sexual intercourse between the parties, but none on the night of the 5th, or after. Shortly after Mrs. ——— considered herself pregnant, and on the 23d of April 1848, was delivered, after an easy labour, of a fine healthy female child, weighing nine pounds.

Supposing impregnation to have occurred on the night of the first, as a consequence of the first coition, the duration of the pregnancy must have been 296 days, but if we suppose the last copulation to be the one from which the pregnancy resulted, the period of gestation was 293 days.

This case is interesting, inasmuch as it furnishes conclusive evidence that gestation may be prolonged to thirteen, if not sixteen, days beyond the usual period.

The large size of the child—being a full pound and a half above the average weight of female children, is a circumstance in favour of its having been carried beyond the usual period.

The mother had borne three children previously, none of which weighed over eight pounds.

It is to be regretted that the age of neither party is mentioned.*

20. *Extra-uterine Fatation.*—A case is related by Dr. Peters, of Missouri, the nature of which was not ascertained during life. The woman, who was not known to be pregnant, was suddenly seized with collapse and intense pain in the abdomen, and died in two hours. On examination, the cavity of the abdomen was found to contain fifteen pints of fluid blood. An embryo, with its membranes, was partly adhering to the upper anterior part of the bladder. The chorion, and amnion, and placenta, were distinctly seen. The embryo was three inches in length; all the external members were perfectly formed; it had one coil of the funis around its neck. The uterus was three times its natural size, and three fourths of an inch in thickness. The inner surface presented no appearance of a membrane lining it. The glandulæ Nabothi were slightly enlarged. The Fallopian tubes presented nothing unnatural, externally or internally. The orifices had the appearance, at the angles of the uterus, which they usually have in the unimpregnated state. The right ovary was much larger than the left, and when cut into, one of the Graafian vesicles was seen to be enlarged, and filled with a brownish-coloured fluid.†

21. *Multiple Conceptions.—Expulsion at different times.*—In our last Volume, page 264, we recorded some cases in which one fœtus was expelled and another retained for a longer or shorter period. It would seem that these instances, erroneously considered to be cases of superfœtation, are more common than is generally supposed, as we find six cases recorded by M. Brachet, in some of which the second fœtus was retained, and born alive at full term. M. Brachet also relates a remarkable instance in the rabbit, in which, after one congress with the male, two successive litters of seven were deposited, with an interval of 30 days. The fact of the single access of the male was here distinctly ascertained.‡

—Dr. Samuel Merriman has republished a very remarkable case bearing on this subject, which, with some very apposite remarks, may be found in the 'Obstetrical Record,' No. 13, 1848.

22. *Dropsy in Pregnant Women.*—An elaborate memoir on this subject by MM. Regnault and Devillier has been translated in the 'Provincial Journal.' The authors distinguish the dropsical effusions of pregnancy with

1st. Oedema, either simple or complicated, with affection of the central organs of respiration and circulation; and,

2d. Oedema, associated with albuminuria. After noticing the changes induced

* Boston Med. and Surg. Journal, June 1848.

† Ib., May 1848.

‡ Journal de Méd. de Lyon, 1841.

by the pregnant state upon the composition of the blood, and more especially the tendency to diminution of albumen, they proceed to the history of simple anasarca. By this term they allude to the serous infiltration of the lower extremities so often seen in pregnant women, and which are caused by the pressure of the gravid uterus on the iliac veins. These are harmless, and disappear on delivery.

When associated with disease of the heart or lungs, anasarca is not to be regarded so much in reference to the condition of pregnancy as to the organic disease. The prognosis is more unfavorable, and the treatment is to be conducted as in the unimpregnated state.

The second form of dropsy, or that accompanied by albuminuria, is considered by the authors under two aspects, as it is or is not complicated with convulsions.

The distinctive character of this form of dropsy is the appearance of albumen in the urine. Respecting the symptoms, progress, and treatment, the authors have nothing new to communicate.*

23. Labour and its Complications—Induction of Premature Delivery.—Dr. Hoffman has undertaken a laborious statistical investigation of all the cases of artificial induction of labour within his reach, of which he has, in the whole, collected 524 examples.

The age of the mother is recorded in but 146 cases, the youngest being 17, and the oldest 44; in more than one half of the entire number she had reached or passed her 30th year. Of 528 cases, in only 49 was the operation resorted to in a *first pregnancy*. Although the *repetition* of the operation in the same woman must have been no infrequent occurrence, the author finds records of this only in 34 cases, in some of which it was performed three, four, or more times. The *stature* of the women is recorded to have been oftener small than large, as would be expected, from the greater frequency of small and rickety pelvises in conjunction with the former. In comparatively few cases has the author found the *indications* for the operation furnished, but justly concludes that, in the bulk of cases, it has been instituted on account of narrow pelvis. In only 68 cases does he find that *preparatory treatment*—such as baths, tepid injections of the vagina, friction of the abdomen, &c.—has been put into force; an omission, he considers, much to be regretted.

In nearly two thirds of the cases, the *mode of operation* is given. Of the more generally admitted of these, the use of *secale cornutum* is recorded in 45 cases, almost entirely by English practitioners. In these, 23 children were born alive, 15 dead; and, of the whole 38 noted, 12 others died within 36 hours after birth. The *Hamiltonian* plan of detaching the membranes, modified by several Germans, is exceedingly tedious. The introduction of *prepared sponge* is a favorite mode with the Germans, and was employed in 70 cases. In 56 cases in which the condition of the child was noted, 42 were born living. *Puncturing the membranes* is the oldest mode, and has been resorted to in 180 cases, and, indeed, doubtless in many of the others not specified. It is beyond all others the easiest, quickest, and most certain means of inducing premature labour, but has been received with much more favour in England than in Germany. By it, however, a far less proportion of children are saved than by the use of the sponge. The fates of 178 are specified, of which 103 were born alive, 12 still-born, and 63 born dead.

As to the *presentation of the child*, it is specified in only 120 cases; and of these 45 were cephalic, 75 non-cephalic presentations. This proportion is, however, delusive; as it is nearly certain that all the cases not specified were natural presentations. Even allowing this, we still find every seventh case a preternatural one. In the 75 cases, the great number of 19 cross-births are noted. In 84 cases the completion of the labour required assistance; in 36 by the forceps, 18 by turning, and 11 by perforation.

The fate of the *child* is recorded in 373 cases, in which 250 were born living, or recovered from asphyxia, and 123 dead. But in 77 of these cases, the child died from circumstances which could have had no reference to the operation, as faulty position, perforation, &c. Of 192 of the children born living, further reports state that 127 continued to live, and 65 had died—28 in the course of six hours, six in 24 hours, and the rest at periods varying from a day to a year or more.†

* Archives Générales, and Prov. Journal, Aug. 9, 1848.

† Neue Zeitschrift für Geburtskunde, vol. xxiii, and Brit. and For. Med.-Chir. Rev. Oct. 1848.

24. *Difficult Labour—from Vaginal Cicatrices.*—Dr. Purefoy gives the case of a female, æt. 40, who had previously been delivered by craniotomy, after a severe and lingering labour, after which the vagina sloughed, and gave rise to a vesico-vaginal fistula. At her second confinement the vagina was found to be traversed by a rigid circular cicatrix, which entirely prevented the finger reaching the uterus, and through which the cord had prolapsed with the arm presenting. Subsequently, this stricture was found to be connected with the os uteri by intimate adhesion. Repeated attempts with the finger succeeded in dilating it, and at last the hand was passed into the uterus, the child turned and delivered, after a labour of about two days' duration. It was only seven and a half months old. Violent inflammation of the uterus with fever set in, and the patient sank at the expiration of a month, worn out by repeated rigors, hectic fever, sloughing and suppuration of the vagina, with obstinate diarrhœa, and attacks of bilious vomiting.

In the other case, the woman was in labour with her third child. Of her second child she was delivered with great difficulty, by the aid of instruments. In the seventh month of this, her third pregnancy, she underwent much fatigue, and labour pains supervened. On being examined, the fœtal heart was found pulsating, and the breech presenting at the os uteri. The pains caused her excessive suffering. After labour had continued nearly two days, a dead child was born. She made a good recovery.*

—*From complete Occlusion and Rigidity of the Os Uteri and Vagina.*—Dr. Trask has published a paper (see art. 74), which the reader will find to be a very valuable addition to the literature of the accident. It will be seen that the author regards inflammatory action as the most frequent cause of occlusion, and advises that interference should not long be delayed, for fear of rupture of the uterus.

—Dr. Paul Bedford, U. S., narrates a case illustrative of the foregoing accident, and its treatment. The female had been labouring six-and-thirty hours before she was seen by Dr. Bedford, and no os uteri could then be discovered either by himself or Drs. Mott and Clinton, who had been previously in attendance; in fact, it was completely obliterated. Dr. Bedford, therefore, with the consent of his colleagues, made a bilateral section of the cervix, through which the head was immediately felt. The labour was not materially hastened by this proceeding, and as symptoms of exhaustion declared themselves, the forceps were applied, and the child extracted. Both it and the mother did well.†

25. *Prolapse of the Gravid Uterus during Labour.*—An additional instance of this complication is narrated by Dr. Watson, U. S. He was called to a female æt. 22, in labour with her first child. She was lying on the floor, and the attending midwives were in the greatest consternation. On examination, he found the uterus entirely out of the vulva, and containing a fœtus of full term: it was dry and ecchymosed, with the os uteri partially dilated, but thick and unyielding. Dr. Watson enveloped the uterus in warm clothes, and, as uterine action ensued which threatened rupture, he incised the cervix to the extent of three quarters of an inch in three directions. After delivery the uterus was replaced, and kept *in situ* by a sponge pessary.‡

—Analogous cases to the above will be found in our preceding Volumes. (Vol. III, p. 219, and Vol. V, p. 252.)

26. *Spontaneous Evolution.*—In a critical inquiry into the mechanism of the spontaneous evolution of the fœtus, Dr. Clay has endeavoured to reconcile the discrepancies in the opinions expressed by different writers. He shows that in the cases considered as instances of spontaneous evolution there have been two orders of fœtal position. In the one, in which one presenting part has retired, and another advanced, he maintains that the evolution has not taken place in the pelvic canal, but in the uterus itself. The other is when the evolution takes place in the pelvic canal, in which the part first presenting never retracts, but allows the uterine action to push the other parts of the fœtus past it, and thereby accomplish delivery. The first of these are the cases commonly recorded as instances of evolution. In his farther description of the process, Dr. Clay accords

* Dublin Quarterly Journal, May, 1848.

† Amer. Journ. of Med. Sciences, April, 1848.

‡ Philadelphia Med. Examiner, April, 1848.

with the opinion of Dr. Douglas, which he quotes at length, and concludes by expressing his opinion that no such circumstance as evolution ever takes place; in the first class of cases it is merely a change of presentation, and in the second the child is born doubled up.*

—In a short communication by Dr. Radford, in the same number of the 'Obstetric Record,' views, identical with those of Dr. Clay, are propounded, and the author proposes, as a substitute for the improper expression "evolution," that of *torsion, doubling, and expulsion*. Two cases are related, in both of which it was distinctly ascertained that the presenting arm did not return, but that the shoulder was, during the whole process of expulsion firmly wedged under the pubis.†

—A case of the first form of "evolution," where both hands presented, and were subsequently replaced by the foot, is recorded by Mr. Davies.‡

27. *Turning in Narrow Pelvis*.—We continue the analysis of Dr. Simpson's Essay. (See Vol. VII, p. 275.) Having shown that the danger to be anticipated from compression of the child's head in dragging it through a distorted pelvis is exaggerated, the author next shows, by statistical evidence, that the practice is not incompatible with the safety of the child, in consequence of compression of the cord, and concludes, therefore, that, as respects *its* life, the new practice has infinitely the preference over craniotomy. But an important question still remains: how is the mother's safety affected in the two operations respectively? To this question he devotes a separate section.

He commences by exhibiting the mortality of the operation of craniotomy to the mother, from tables drawn up from Dr. Churchill's collection of data, and contrasting them with the mortality from turning. This he shows to be for craniotomy 1 in 5, for turning 1 in 15. So far, he observes, figures give a result in favour of turning in general, but the question requires to be further extended to the comparison of turning in narrow pelvis, in which forcible extraction and compression by the head is necessitated. That such compression of the maternal tissues is not a source of so much danger as might be anticipated, the author next endeavours to demonstrate, by a comparison of cases of craniotomy accompanied and not accompanied by force in the extraction. He, for this purpose, analyses 87 cases reported by Dr. Lee, in 30 of which, where unusual traction was necessary, the mortality was 2, or 1 in 15, while in 57, in which no particular difficulty was noticed, the mortality was 1 in 4½, causing it to appear that, *cæteris paribus*, unusual traction and compression does not add to the maternal mortality; and therefore that such an event is not to be anticipated in turning under similar circumstances. The reason of this he considers to be that what is lost in *force* is gained in *time*; in other words, that more danger would accrue from the prolongation of the labour, than from the early and temporary pressure exercised in turning; the danger in parturition being, as he shows in Sect. 4, proportionate to the duration of the labour.

This latter law Dr. Simpson considers so important, that he recurs to it in the present part of his essay, by tabulating the forceps and craniotomy cases of Dr. Collins, under this particular point of view. He thus demonstrates that the maternal deaths from instrumental aid were 1 in 16 when the labour had not continued 24 hours, while in labours of 48 hours' duration it rises to 2 in 5. So also in turning, where the labour was under 24 hours, the mortality was one in 21, when above 24 hours, 1 in 3.

In summing up the preceding observations, Dr. Simpson draws the following deductions:

"1st. A means of artificial delivery, such as turning, which, in cases of pelvic contraction, would allow us to finish labour at an early date, should, as a general rule, add greatly to the safety and chance of life of the mother, as compared with a means of delivery, such as the long forceps or craniotomy, which cannot be legitimately practised till a much later period after the commencement of parturition.

"2d. The facts I have adduced show that the exertion of force in artificial delivery is attended with comparatively little danger, provided the delivery is early; and that it is less hazardous than the protraction of the labour.

* Obstetric Journal, No. 13, by J. Radford, p. 8.

† Cases of Torsion, &c., in Shoulder Presentations.

‡ Obstetric Record, No. 7.

"3d. All these deductions are only corollaries to this higher and more comprehensive law, that the degree of danger and fatality attendant either upon natural or morbid parturition increases in a ratio with the increased duration of the labour.*

—The publication of the preceding essay, and more particularly its fourth section, in which the mortality of the mother is stated to increase in a ratio proportioned to the duration of labour, has called forth a letter from Dr. Collins, of Dublin, complaining that Dr. Simpson's calculations, founded upon his (Dr. Collins) tables, are erroneous, inasmuch as he omits to state the cause of death in the cases of labour prolonged over twenty hours, and which Dr. Collins declares to have been in many instances unconnected with delivery. The writer then proceeds to state his belief that the proposal to turn in deformed pelvis is a dangerous doctrine, especially now that under the use of chloroform, a degree of force is likely to be employed without the expression of pain, which may be productive of the worst consequences, and finally reiterates his complaints of statistical inaccuracies on the part of Dr. Simpson.†

—In reply to this letter, Dr. Simpson retorts the charge of inaccuracy upon Dr. Collins, and endeavours to show the correctness of his former statements by a more detailed account of the statistics upon which they are based. Thus he shows, in reference to the maternal mortality of protracted labours, that of Dr. Collins's 15,850 labours, 3537 terminated in 1 hour, with a mortality of 1 in 322, while 130 were prolonged over 36 hours, with a mortality of 1 in 6; and so on in regular progression between the two extremes. In a second table he shows, contrary to the assertion of Dr. Collins, that the morbid complications of delivery are increased also in ratio with the duration of labour; as, for instance, in reference to puerperal fever, that it occurred once in 219 cases, where delivery took place within 6 hours, and once in 59 cases, where it was prolonged over 12 hours. The same evidence is also given regarding infantile mortality.‡

[It would thus appear that the same figures, when handled by Dr. Simpson and Dr. Collins respectively, give rise to opposite results. Which is right and which is wrong we will not venture to decide; for to do so with any show of justice would necessitate an analysis on our own part of the litigated statistics, a labour which the calls upon our time entirely preclude.]

—In confirmation of the feasibility of turning in narrow pelvis, we may state that Dr. Wilson, of Glasgow, affirms that he has followed the practice for the last thirty years, and thinks that he has saved many lives by it. He, however, puts certain limitations upon its performance; for instance, when labour has been protracted, and the patient's strength exhausted, he would not think it justifiable; nor when there are reasons to believe that the child is dead. His motives for preferring to turn, under the circumstances which he deems justifiable, are, that in that operation the more yielding squamous portions of the temporal bones first come into contact with the narrowed brim of the pelvis, instead of the comparatively inelastic parietal bones.§

—We neglected to mention in our former Report that Dr. Radford had published a short communication on "Turning in Contracted Pelvis;" we therefore take the present opportunity of supplying the omission. Dr. Radford informs us that Velpéau is the first writer who practised turning under these circumstances. Before having recourse to the operation, he states the necessity of being able to estimate the degree of distortion relatively to the size of the foetal head, otherwise it may happen that after all the perforation will be required, which, after turning and extracting the body, will, he believes, be attended with increased difficulty and danger. He further expresses his opinion that it would be culpable to attempt turning with the passages undilated, or when the liquor amnii has been some time discharged. As regards the chances of the child's life, he thinks that when the contraction is slight, the long forceps is, in the majority of cases, to be preferred. Further, in reference to the comparative facility with which the head will pass, he differs from Dr. Wilson in considering that the base coming first, as in footling cases, does not facilitate the delivery, unless such unwarrantable force be used as

* Provincial Journal, Oct. 4, 1848.

† Ibid. Oct. 18, 1848.

‡ Ibid. Nov. 1.

§ Edinburgh Monthly Journal, May.

will risk the separation of the body from the head. On the whole, we gather from Dr. Radford's paper, that however anxious he is to do away with craniotomy, he is not an advocate for turning to the extent advised by Dr. Simpson.*

28. *Uterine Hemorrhage*.—A very elaborate and complete essay on uterine hemorrhage has been written by Mr. Newnham, of Farnham, which we shall attempt briefly to analyse.

Uterine hemorrhage, he informs us, may be active or passive, the distinction being made to rest upon the quantity of blood lost in a given time. It may also be external and visible, or internal and concealed. The latter would be aggravated in a case of twins, because a larger space is occupied by the placental attachments. In highly nervous females, it may arise from mental emotion; hence the necessity of the expression of hope and confidence on the part of the accoucheur. Menorrhagia, hemorrhage from ulceration of the os, from polypus, and malignant disease, &c., are mentioned as instances of the occurrence of hemorrhage in the unimpregnated uterus.

Abortion, as a cause of hemorrhage, is next considered, and its causes are separately brought under review. These are shown to be chiefly plethora, anæmia, nervous surexcitation, original feebleness, death of the fœtus, accidental separation of the ovum, fever, syphilis, organic disease of the uterus, mental emotion, &c.

In treating of hemorrhage after delivery, the author first mentions inertia of the uterus as a cause, and gives certain judicious rules in reference to the management of the delivery of the child and placenta, and the means of obtaining contraction of the uterus. He next enunciates the circumstances which may give rise to internal hemorrhage, and alludes to the use of the plug, and the circumstances under which it is and is not available. He subsequently proceeds to discuss the treatment of placenta prævia, more particularly in reference to the disputed question of the propriety of extracting the placenta. To this practice he adduces several objections. In the management of these cases, the author adopts the practice usually recommended, viz., where the neck is undeveloped, as before or at the seventh month, to wait, unless life be threatened, and then to evacuate the liquor amnii, and bring on labour. If the cervix is developed, and the os dilated or dilatable, to turn and deliver; if the latter state does not exist, to wait, give antimony, &c., till sufficient relaxation ensues. He thinks it immaterial whether the child is reached by the side of, or by going right through, the placenta.

As the general treatment of uterine hemorrhage, which is the next subject reviewed, the author speaks seriatim of the several remedies generally employed. He objects to the indiscriminate application of cold, and believes that ergot has received a degree of credit to which it is not entitled. The plug is only available or justifiable in the early months. Sedatives, the mineral acids, opium, and galvanism, are all in their turn discussed, and the essay concludes with short instructions for the management of convalescence.†

—In hemorrhage from placenta prævia, Dr. Bellini advises incisions of the cervix in the latter months, to expedite delivery. He cites four cases, in which this practice was adopted with success, on account of rigidity of the os uteri.‡

29. *Removal of the Placenta before the Child*.—Dr. Waller narrates six cases in which the placenta was extracted before the child, and others are recorded by Dr. Ray, Mr. Stokes, and Mr. Meadows. In all these, the hemorrhage ceased immediately.§

30. *Prevention of Hemorrhage from Inertia*.—Dr. Christie advises the bandage before delivery, and the exhibition of ergot just before the head is expelled.||

31. *Rupture of the Uterus*.—We beg to direct the attention of the reader to a memoir on this accident by Dr. Trask, an abstract of which will be found at a previous page (art. 74). It is an exceedingly elaborate production, and offers a more complete history of the subject than any previously published.

—The memoir of Dr. Krantz has been retranslated by Dr. Clay, and may be found in his 'Obstetric Record.'¶

* Prov. Med. and Surg. Journal, July, 1847.

† Obstetric Record, Nos. 5, 7, 9.

‡ Reviewed in Brit. and For. Med.-Chir. Rev. Oct. 1848.

§ Monthly Journal, June, 1848.

|| Obstetric Record, No. 11.

¶ No. 8.

—Dr. Tyler Smith has treated of rupture of the uterus in his lectures before alluded to. He believes that the accident is generally due to exaggerated uterine action alone, and that in all cases it takes a prominent share in its production. His views of the causes and prevention of the accident, based upon the excitomotor theory, are well worthy of consideration.*

—Two cases of rupture of the uterus are reported by Dr. Mitchell. In the first, one leg only had escaped into the abdomen; the child was extracted, and the woman recovered, under the use of large doses of opium.

In the second case, the escape of the child was complete; gastrotomy was performed after the mother's death, but it is not stated whether the child was saved, though it may be inferred that it was not.†

—A case of recovery after ruptured uterus is also recorded by Dr. Coley. In this instance the fœtus, with the exception of the head, had escaped into the peritoneal cavity. The narrator states that he introduced his hand through the rent, and, seizing the feet, dragged the body back into the uterus, and so delivered the child.‡

—Dr. Simpson also describes two cases of rupture depending upon hydrocephalic fœtuses, and alludes to the frequent connexion between the two conditions. In confirmation of this, he states that out of seventy-four cases of intra-uterine hydrocephalus collected by Dr. Keith, rupture of the uterus occurred in sixteen. He further insists upon the necessity of early completion of delivery, when the fœtus is ascertained to be hydrocephalic, and advises puncture of the cranium with a trochar rather than craniotomy.§

32. *Puerperal Affections.*—We cordially direct the reader to the perusal of the articles on the puerperal conditions and affections, in the last number of Dr. Copland's 'Dictionary of Medicine,' as offering a complete epitome of the present state of knowledge on these important subjects. There is not, in fact, a single condition incidental to the puerperal state which has not there met with a most ample and careful examination.

33. *Fainting after Delivery.*—All accoucheurs are familiar with fainting from hemorrhage after delivery, but there is another cause of that accident alluded to by Dr. Meigs, which obstetrical writers do not appear to have sufficiently insisted upon. This cause is to be found in the sudden removal of the support to the abdominal blood-vessels, by the emptying of the womb, and is analogous in its rationale to the fainting which often follows tapping in ascites or ovarian dropsy. This is to be prevented by the timely use of the bandage, and may be treated by pressure of the abdominal parietes, combined with the use of stimulants.||

—The same author alludes to the possibility of the occurrence of fainting from distension of the vagina by coagula, without refilling of the womb. He considers, however, that there is some other principle involved besides the actual loss of blood, but be this as it may, the patient will recover by simply turning out the clots, without any other resource. "To turn out the clots," the author remarks, "is to relieve the patient of her deliquium."¶

34. *Puerperal Fever.*—Dr. Copland divides "puerperal fevers" into mild and severe: the former class including ephemeral fever or weed, intestinal or gastric fever, and miliary fever; the second comprising puerperal peritonitis, inflammation of the uterine appendages, &c. It is of these latter only that we profess to give the author's views more in detail.

Classification of Puerperal Fevers.—Dr. Copland alludes to the various descriptions of fever by different writers, each based upon the experience of the individual writer, and therefore not sufficiently comprehensive. Thus Armstrong, Hey, Campbell, &c., who observed only the inflammatory form, were ignorant at the idea that a low typhoid type, as described by Clarke and Hamilton, could have an existence. Again, others have viewed puerperal fever as more or less complicated in form and nature. John Clarke recognised three types:—1st. That consisting in local inflammation; 2d. Primary inflammatory or synochal fever developing local inflammation; 3d. Typhoid fever with inflammation. Dr. Lee refers the symptoms to four varieties:—1st. Inflammation of the peritoneum; 2d. Inflammation

* Lancet, Nov. 4.

§ Monthly Journal, June, 1848.

† Obstetric Record, No. 13.

‡ Ibid, No. 11.

|| Females and their Diseases, p. 550.

¶ Ibid.

of the uterine appendages; 3d. Inflammation and softening of the muscular tissue of the uterus; 4th. Inflammation and suppuration of the uterine veins and absorbents. Gooch, Boivin, and Deyes have reduced the varieties to two: simple inflammatory and typhoid, &c.

A consideration of these and other classifications, tested by his own experience, has led Dr. Copland to propose the following:

- | | |
|-----------------------------------|--|
| 1st. Inflammatory Puerperal Fever | $\left\{ \begin{array}{l} \text{Puerperal peritonitis, inflammation of} \\ \text{the uterine appendages.} \\ \text{— with peritonitis,} \\ \text{— metritis, \&c.} \\ \text{— phlebitis.} \end{array} \right.$ |
| 2d. Synchoid Puerperal Fever | |
| 3d. Malignant Puerperal Fever. | |

Of these, the second is that most frequently observed, both in public and private practice.

Besides these forms, Dr. Copland alludes to another, which is no more or less than true typhus occurring in the puerperal state, but, as he correctly observes, fever thus originating should no more be viewed as a form of puerperal fever, than smallpox or scarlatina under the same circumstances.

With the above sketch of the systematic arrangement of puerperal fevers, the author proceeds to detail the symptoms, causes, diagnosis, &c., of each. On these points our space allows us only to remark, that the description is most minute and accurate. On the debatable question of the contagious and erysipelatous nature of puerperal fever, Dr. Copland decides in the affirmative, and brings forward a mass of evidence in confirmation of his opinion, which renders any other conclusion next to impossible. He terminates this part of his subject with the following cautions, in the importance of which we heartily concur.

1st. That lying-in hospitals have been supported in mistaken views, and that the charity would be more safely bestowed to its objects, and to others contingently, if it were so administered as to afford the required aid, and increase the comforts of patients at their own houses.

2d. If these institutions be still supported, the physicians and surgeons ought not to attend the cases of puerperal fever or erysipelas which so often break out in them, for by so doing they convey the poison from one patient to another. In all such cases, the consulting physician or surgeon, who should not be engaged in midwifery practice, ought to take charge of these cases, which should be moved to a separate part of the establishment.

3d. A physician or surgeon, engaged in midwifery practice, on the occurrence of puerperal fever in any of his cases, should either call in a physician not engaged in this practice, to whose care she should be committed, or he should relinquish the care of puerperal females during his attendance in cases of this fever, or even in cases of erysipelas.

4th. An obstetric practitioner should not make an autopsy of a case of puerperal fever, erysipelas, peritonitis, diffuse cellular inflammation, &c., nor even attend such case, without washing his hands and changing his clothes, and allowing three or four days to elapse between such attendance and midwifery engagements.

Dr. Copland forcibly and justly argues, that though formerly indulgence might fairly be extended to those practitioners who unwittingly conveyed this deadly pestilence from patient to patient, no excuse on the plea of ignorance should now be granted. To be the means of propagating the disease is no longer a *misfortune*, but it is a *crime*. In this remark we emphatically concur.

—On the subject of contagion, Dr. Meigs (op. cit.) maintains the opposite opinion. "If," he observes, "you should assert that a medical man may generate the fomites of the disease in his own constitution, without being at the same time subject to any manifest signs of the malady himself, you will arrive at a conclusion far more probable than that of the contagiousness of this generally serious malady." It must be stated nevertheless, that from the care he takes to inculcate caution as to ablution, &c., his convictions in the non-transmissibility of puerperal fever are not of the most positive kind.

35. *Treatment of Puerperal Fever.*—Dr. Copland considers the treatment of each of his varieties of puerperal fever *seriatim*.

In the *Inflammatory* form, the antiphlogistic treatment is to be carried out as in simple peritonitis, due allowance being made for the previous sanguineous losses or exhaustion of the patient. Dr. Copland, however, cautions the reader that there are mixed cases, partaking somewhat of the nature of both the inflammatory and the synchoid forms, especially in large towns, and in these that it will be prudent to trust to calomel and opium, turpentine, &c., rather than to large bleedings.

In the *Synchoid* form, with local inflammation in whatever organ, the early reaction quickly passes into a state of asthenia, and in this, though small local bleedings are sometimes required, Dr. Copland abjures all active depletion. The remedy upon which he chiefly depends is *turpentine*. From a lengthened experience of its effects, and, from his own account, a much larger experience than has been met with by any other writer, he states that it is the most efficacious medicine which can be given. At the same time, especially where the local reaction is great, he advises the exhibition of calomel, camphor, and opium. This favourable opinion of turpentine, it must be remarked, is not entertained by Dr. Lee and many others; but Dr. Copland disposes of their objections, on the plea that they have not given it a fair trial. His mode of administering it, is to give half an ounce, with or without castor oil, three times, besides administering it by enema.

In the *malignant* form, turpentine is still, according to Copland, the remedy; but he conjoins calomel, opium and camphor, with or without capsicum and quinine, according to the degree of vital depression. The reader is requested to turn to the article whence these remarks are taken, for an admirable *résumé* of the various modes of treatment recommended, and a careful comparative estimate of their effects.

—In the treatment of puerperal fever, Dr. Meigs is a disciple of Gordon, believing that profuse bloodletting is the sheet-anchor. He is not deterred by the reports of typhous forms of the disease from regarding it as an inflammation, and treating it accordingly. He follows the bleeding with calomel and opium.*

36.—Mr. Boddy has narrated his experience of puerperal fever, as it appeared in 1842, in the Westminster Lying-in Hospital. The number of cases observed was twenty-six, the analysis of which shows forcibly the effects of low temperature and mental prostration in the production and mortality of the disease. Respecting treatment, he remarks that in the malignant form all methods of treatment appear equally inefficacious. The most rational plan to pursue he conceives to be to subdue local inflammation by local depletion, to allay pain by anodynes, and to give mercury. Removal of putrescent vaginal secretions he properly regards of great importance; as also the support of the strength by nutritious diet, and stimuli when necessary.†

37. *Communication of the Disease by the Accoucheur*.—Mr. Beecroft reports seven cases, all of which proved fatal, and for the occurrence of which he is distinctly answerable. He was a non-contagionist until the fourth case opened his eyes, and he then thought it right to leave his practice for *nine* days. On his return, as might have been predicted after so short a seclusion from midwifery practice, he had three other fatal cases. This is an addition to the already too numerous instances of the direct conveyance of the disease by the attending accoucheur.‡

[We trust that the time is not distant when every practitioner will be imbued with the conviction of the contagious nature of puerperal fever, and of his own share in its propagation; and that no feeling of self-interest will intervene to prevent the performance of an obvious duty, that of declining practical midwifery for a time, immediately upon the occurrence of a case in his own sphere. With the amount of evidence before him, upon which this duty is inculcated, we do not envy the feeling or the conscience of the man who meets with three or four cases in succession.]

38. *Quinine a Prophylactic in Puerperal Fever*.—In an epidemic which occurred in the hospital of Rouen, in 1843, Dr. Leudet endeavoured to ascertain whether, by the exhibition of quinine, the body might be enabled to resist the invasion of puerperal fever. From September 21st, 1843, to January 8th, 1844,

* Op. cit.

† Obstetric Record, No. 19, 1848.

‡ Lancet, June 24, 1848.

83 women were delivered in the hospital. In 9 of these women, who took quinine, no instance of puerperal fever occurred; while in the remaining 74, who did not take it, 21 were attacked. In 1845, of 26 puerperal women, 15 were treated with quinine, of which only 1 was attacked with the fever; while of the 11 who did not take it, 8 had the disease. Again, in 1846, between the 19th of March and the 21st of April, 36 women were delivered. Quinine was administered to 17 of these, one of whom only was attacked; while of the remaining 19, the disease appeared in 11.

Dr. Leudet begins by giving five grains of quinine four hours after delivery, and repeats the dose every six hours till the third day, when the quantity is diminished. In certain instances he commences before delivery.*

39. *Puerperal Convulsions*.—We have received a pamphlet on the ‘Epileptic Form of Puerperal Convulsions,’ by Mr. Joseph Thompson, of Nottingham, which is worthy the attention of every accoucheur. There are, perhaps, few of the accidents to which the puerperal female is exposed which have been the subject of more difference of opinion, as to pathology, than convulsions; and it may be stated with truth, that, until the researches of Marshall Hall were brought to bear upon the disease, the nature of the attacks was wrapped in complete obscurity. The author’s object, in the present essay, is to explain the phenomena of the affection on the basis of the excito-motory theory, and this he has done in an admirable manner. It cannot be said that he has advanced any idea which would appear novel to those who are familiar with Dr. Hall’s important discoveries, and who are accustomed to view the diseases of the nervous system by the light which they have afforded; but to the mass of the profession, which we fear does not fully understand, or appreciate, the physiology and pathology of the true spinal system, Mr. Thompson’s pamphlet will afford much valuable information, and will clearly unravel a subject which must, without such aid, be one of confusion and obscurity. The length of the essay prevents our following the author very closely. The first and second sections, which treat of the symptoms and causes of puerperal convulsions, we pass over, as they are but a recapitulation of the ordinary writings on the subject. In Section III, the author studies the symptoms under the two groups of *cerebral* and *spinal*, and enters into a careful account of the anatomy and physiology of the separate division of the cerebro-spinal and ganglionic systems, and their mutual connexions, as necessary to the comprehension of the distinction between the two orders of symptoms. In this description, which, for the most part, corresponds with those given by recent writers on physiology,† we shall not follow him, but proceed at once to his application of them to the pathology of the disease.

The author shows, by citing the expressed opinions of Drs. Collins, Hamilton Lee, and others, and by adducing the discordant and diverse accounts of post-mortem examinations, that no very just appreciation of the proximate cause of the disease has been hitherto entertained. He subsequently states his own opinion, that the appearances which by some have been regarded as the proximate cause of the convulsions, have been in reality their effects. He insists upon the fact, that no injury to the cerebrum, or cerebellum, can cause convulsion as long as the true spinal system is not involved, which fact, he observes, is a sufficient answer to all those who regard congestion or other diseases of the brain as the disease. Having repeated this and other opinions, he states his own in the following manner:—There can be no question that the proximate cause of puerperal convulsion consists in a morbid irritation of the true spinal system, and more especially of the medulla oblongata, propagated to it, from the mucous surfaces, through the incident nerves of the excito-motor system.

In Section V, the subject of diagnosis is considered. The chief distinction to be drawn is between the “apoplectic,” the “hysteric,” and the “epileptic” convulsion. In hysteric convulsion, there is not the complete closure of the glottis, and consequently there is not the stertor and coma; neither, as Marshall Hall expresses it, in reference to general epilepsy, is there the perfect laryngismus and

* Union Médicale, April 8, 1848.

† Flourens, Valentin, Marshall Hall, Carpenter, Müller, &c., from whom quotations are freely taken.

odaxismus, which two symptoms are pathognomonic of *epilepsy*. The apoplectic convulsion is distinguished by the rapid supervention of coma, stertor, &c., the non-repetition of the spasmodic movements.

The treatment recommended by the author does not differ from that in general use. He, however, gives a physiological reason for the treatment employed, which, in the hands of those unacquainted with the influence of the excito-motory system of nerves, is entirely empirical, and, though successful, is conducted at least on false principles.*

§ III.—*Diseases of Children.*

40. *Value of Fœtal and Embryonic Life.*—Under this title Dr. Radford has contributed an essay, in which he inquires into the legal, social, and obstetrical value set upon the product of conception. In the first portion of the inquiry, viz., whether the law forms a just estimate of this value, he mentions, with indignation, the ridiculous and ignorant farce occasionally performed, in the impanelment of matrons to decide upon the pregnancy of criminals, and criticises the opinion which would make a distinction between an embryo and a *quick* child, insisting upon the justice of throwing as much protection around the former as the latter.

In the second part he shows that society, from its origin, has placed little or no value on embryonic life, and that, even in the present day, enlightened mothers think nothing of their abortions further than as their own life and health may be affected. In the third part he inquires whether the obstetrical principles of the profession afford the best means of preserving the embryo and fœtus. This inquiry embraces the symptoms and treatment of spontaneous abortion, the propriety or non-propriety of inducing abortion in narrow pelvis, &c. This practice has been recognised by many; but Dr. Radford thinks it unjustifiable on religious grounds. Premature labour is next considered, and the propriety of inducing it admitted, both in reference to the child and to the mother. Rules for the use of ergot, the forceps, perforation, &c., are also given.†

41. *Monsters.*—Several instances of monstrous births have recently been recorded. Dr. Lyell met with a double monster, the fœtuses being united from the umbilicus to the sternum, having one pericardium containing two distinct and perfect hearts; two pairs of lungs; a single diaphragm and liver. The umbilical veins and arteries were double at their origin, and inserted into separate placentas, but united midway into a single cord.‡

—M. Prus records the birth of a monster with two heads, one white, the other black; the body was normal. The black colour was clearly ascertained not to depend upon nævus or other morbid condition, but was due to the existence of pigmentum nigrum, as in the negro. The parents were *fellahs*. He could not discover that the mother had had connexion with a negro.§

—A very unique case has been published by Mr. Gabb, being an instance of a fœtus possessing a brain but no spinal marrow. Dr. Tyler Smith, who mentions the case, regards it as a proof of the correctness of his explanation of the so-called fœtal movements. These were remarkably strong in the present case, but, as Dr. Smith observes, could not have depended on the motion of the fœtus, as there was no connexion between the muscles and nervous centres.||

[This case is certainly a most remarkable one, and offers no slight embarrassment to the accepted laws of developmental physiology.]

42. *Hæmorrhage from the Umbilical Cord.*—Mr. Hill was called to an infant, eight days old, from whose navel there had been bleeding for five hours. Several applications had been employed without effect. The child appeared considerably sunk by the discharge; the cord was thick, and vessels apparently large. He first put a small compress on the part, which was retained by the pressure of the finger. He then mixed up two tablespoonfuls of plaster of Paris, in a cup with water into a thick paste, and hastily removing the compress, he let the contents of the cup flow out on the part, where it immediately settled and hardened. He remained with the child some hours, and kept the abdomen partially

* Essay on the Epileptic Form of Puerperal Convulsions. Nottingham, p. 74.

† Obstetric Record.

‡ Monthly Journal, August.

§ Union Médicale.

|| Lancet, Oct. 7, 1848.

exposed to the air; a few cracks having taken place on the plaster, he filled them up with fresh. He then put a bandage on the infant, removing it occasionally, and filling up the cracks that took place for the purpose of keeping the plaster solid, which was repeated for four days. It was then removed, and the bleeding did not return. On examining the cast, there appeared three small papillæ, which the author supposes corresponded to the two arteries and vein, which they occupied until the vessels became impervious.

Mr. Hill claims no merit of originality for this practice; he took the hint from Dr. Churchill, who, in a very excellent paper on the umbilical cord, published in the 50th volume of the 'Edinburgh Medical and Surgical Journal,' page 302, for the year 1838, has suggested such treatment.*

43. *Pleuritis and Empyema in Children*.—In an essay which appears in the 'Dublin Quarterly Journal,'† Dr. Battersby objects to the opinion of the infrequency of the above diseases in early life, and narrates six cases, four of which were instances of pleuritis with empyema, and the other two of simple pleurisy. The first case, which occurred in an infant two years and a half old, is remarkable for the tender age of the patient, but more particularly from the occurrence of spontaneous perforation of the thoracic wall. The fourth case, also, was that of a patient only two years of age. The author discusses the comparative facility in diagnosing pleurisy in the child and adult, and concludes that it is not so difficult in the former as has been supposed. The signs most to be depended on, he states to be bronchial respiration, feebleness of the respiratory murmur, and dullness on percussion.

44. *Infantile Dysentery*.—Mr. Garlike relates some instructive cases, in one of which great advantage was derived from enemata of nitrate of silver. He does not seem aware that the same treatment had been previously recommended by M. Trousseau.

* Dublin Medical Press, June 7, 1848.

† No. 8.

BOOKS RECEIVED.

1. Treatise on the Practice of Medicine. By Dr. Wood. 2 vols. 8vo.
2. Graves's Clinical Medicine. Second Edition. 2 vols. 8vo.
3. Handbook of Physiology. By Dr. Kirkes. pp. 705.
4. Introduction to Practical Chemistry. By John E. Bowman. 12mo. pp. 278.
5. Coleridge's Theory of Life. Edited by Seth Watson, M. D.
6. On the Influenza of 1847-8. By Dr. Bevil Peacock. 8vo. pp. 182.
7. On the Treatment of Ulcers. By Henry Chapman, F. R. S. 8vo. pp. 156.
8. The Periodoscope. By Dr. Tyler Smith.
9. Clinical Midwifery. By Dr. Lee. Second Edition.
10. American Journal of Dental Science. Oct. 1847, Jan., April, July, 1848.
11. Physiology. In Blank Verse. By Dr. Dick.
12. Chemistry as exemplifying the Wisdom of God. By George Fownes. Second Edition.
13. Treatise on Diseases of the Heart and Great Vessels. By S. Hope, M. D., F. R. S. Fourth Edition. pp. 611.
14. Observations on the Bulam, or Yellow Fever. By Sir Wm. Pym, K. C. H., &c. pp. 310.
15. Reflections on Organization. By Henry Freke, M. B., T. C. D., &c. pp. 80.
16. Clinical Lectures. By J. Duncan, M. D.
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17. Scriptural Authority for the Mitigation of the Pains of Labour. By Dr. Frotheroe Smith.



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1. Advantages of Ether and Chloroform in Operative Surgery. By T. B. Curling, F. R. C. S. E., Lecturer on Surgery, &c., London Hospital. 1s. 4d.
2. The Philosophy of Animated Nature; or, the Laws and Action of the Nervous System. By G. Calvert Holland, M.D., Physician Extraordinary to the Sheffield Infirmary. 12s.
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INDEX TO VOL. VIII.

Abortion, prevention and treatment of	156
Abscess, pneumonic, case of	48
ischio-rectal	141
of the uterine appendages	150
Acne rosacea, treatment of	80
arsenic in	80
AITKIN, Mr. on convulsions in typhus	187
ALLAN, Mr. cases of hernia by	234
ALONZO, Dr. case of intestinal obstruction	234
Amputation, after gunshot wounds, question of	102
at the hip joint, successful case of	126
Anæsthesia, local	223
in midwifery, report on	241
Anasarca, cutaneous incisions in	74
Anchylosis, treatment of, by cold water	238
Aneurism, treatment of by compression	125
of the aorta	205
Apoplexy, relation of cerebral congestion to	195
Appendix cæci, case of disease of, cured by operation	233
Aromatic wine, formula for	120
Arsenic in furunculus and acne	80
paralysis from, case	199
ASHWELL, Dr. notice of a third edition of 'Practical Treatise on Diseases of Women'	241
his objection to the uterine sound	245
Atropia, therapeutic uses of	215
AYRES, Dr. on the treatment of cholera	180
BAINBRIGGE, Mr. on the religious objections to anæsthesia in midwifery	241
Baldness, treatment of	209
BARCLAY, Dr. WHYTE, on the statistics of valvular diseases of the heart	204
BARLOW, Mr. on paralysis with atrophy	199
BATTERSBY, Dr. on the pleuritis and empyema of children	260
Bed-sores, treatment of	114
BEECROFT, Mr. S. on the communication of puerperal fever by the practitioner	257
BELL, Mr. JOSEPH, on certain displacements of the unimpregnated uterus	145
BELLINGHAM, Dr. on the treatment of aneurism by compression	125
on a congenital malformation of the shoulder-joint	140
on aneurism of the aorta	205
BENNET, Dr. HENRY, on inflammation and abscess of the uterine appendages	150
BERNARD, M. C. Esq. on the treatment of bed-sores	114
Biliary concretions, extraordinary case of	56
BIRD, Dr. GOLDING, on therapeutics in relation to depuration of the blood	211
Bismuth, in the diarrhœa of phthisis	214
BLACHE, M. on the diseases of the larynx in infancy	175
Blisters, in the treatment of ulcers	123
Bloodletting in gunshot wounds	106
BODDY, Mr. cases of puerperal fever by	257
Bone, diagnosis of scrofulous and syphilitic diseases of	82
new method of resection of	118
BONNET, M. on cauterization as a remedy for the results of operations	95
Bowels, overloaded, head symptoms from	31
BRADY, Mr. on chloroform in cholera	25

Brain, tubercular disease of, case	195
fungus of the, case	196
hydatids of, case	197
Bronchitis, in infancy	170
BROWNE, Dr. F. on a fatal case of chorea	32
BULLEN, Mr. extraordinary calculus extracted by	236
Cachexia, paludal	183
Calculus, salivary	232
urinary, remarkable case	236
CAMPBELL, Dr. H. on the removal of foreign bodies from the duct of Wharton	123
CAMPARDON, M. on the treatment of acne rosacea	80
Cancer of the lip, necessity of excision in	118
Cancerum oris	52
Carbon in cholera	22
Caries of the tympanum, consequences of	85
CARMICHAEL, Mr. (Edin.) on chloroform in midwifery	243
CAZENAVE, M. on baldness and its treatment	209
Chloroform in cholera	25
in chorea	36
in hydrophobia	195
tests for	211
fatal cases from	220
in midwifery, testimony to the advantages of	242
mode of exhibiting	243
Cholera, treatment of by various writers	21, 179
Chorea, acute, fatal case of	32
treated by chloroform	36
CLAY, Dr. case of excision of the anterior lip of the os uteri	155
on the laws which regulate the duration of utero-gestation	247
on spontaneous evolution	251
Cod-liver oil in lupus	77
tests for the purity of	213
COLEY, Dr. case of recovery from rupture of the uterus	255
Collodion, account of, and method of using	116, 218
Coma from retained biliary secretion	31
Contraction of muscles, tenotomy for	124
COPLAND, Dr. on puerperal fever	255
on the contagious nature of puerperal fever	256
on the communication of puerperal fever by the practitioner	257
on the treatment of puerperal fever	256
CORFE, Mr. on dropsy	71
Cotton, use of, in deafness	219
Cranium, fractures of, how produced	92
Creasote in neuralgia	36
externally in erysipelas	212
Croup, M. ZERONI on	172
M. BLACHE on	175
CURLING, Mr. removal of a fibrous tumour from the vagina	246
Deafness, new mode of treating	98
DEBROU, M. on the diagnosis of incomplete fractures	81
Delirium, febrile, tartar emetic and opium in	195
Delivery, premature, statistics of	250
fainting after	255
Diabetes, remote causes of	69
clinical lecture on	206
Diarrhœa, infantile	176
of phthisis, bismuth in	214
DICK, Dr. on the treatment of gastrodynia	56
DIDOT, M. case of enterotomy by	122
Diet and regimen, notice of Dr. Robertson's work on	210
Dislocation of the shoulder, congenital	82
of the pelvis, cases	83
DONOVAN, Mr. on atropia	215
Dropsy, Mr. CORFE on	71
treatment of by cutaneous incisions	74
DUFFIN, Dr. EDWARD, case of biliary concretions	56

DUNCAN, Dr. F. on pneumonia	43
on a case of pneumonic abscess	48
Dr. JAMES, on divisions of hernial stricture external to the sac	235
Dysentery, comparative efficacy of different medicines in	58
infantile, nitrate of silver enemata in	260
ELDRIDGE, Dr. on the spontaneous expulsion of an uterine tumour	169
EMERY, M. on cod-liver oil in lupus	77
Emphysema, general, after whooping-cough	47
Enterotomy, its obstruction of the bowels, case	122
Ergot of rye in retension of urine	62
Erysipelas, traumatic, treatment of	96
nitrate of silver ointment in	114
creasote externally in	212
EVANS, Mr. PRICE, on carbon in cholera	22
FALLOON, Mr. extirpation of the superior maxilla, by	232
Femur, excision of the head of, in caries of the joint	131
general remarks on	237
FERGUSON, Mr. operation by, of excision of the trochanter and neck of the femur	237
Fever, puerperal, contagion of, &c.	257
typhus, treatment of	17
typhoid, internal use of turpentine in	20
typhoid and typhus, diagnosis of	186
congestive	187
intermittent, and phthisis, antagonism of denied	188
FLEMING, Dr. on the exhibition of mercury in fractional doses	213
FLUDER, Mr. CHARLES, on the necessity of excision in cancer of the lip	118
Forceps, remarks on	167
long, on the application of	165
Fractures, ununited, treatment of	239
incomplete, diagnosis of	81
GABB, Mr. case of an amyelitic fœtus by	259
Galvanism, therapeutic uses	215
Gangrene, hospital	111
GARLIKE, Mr. on enemata of nitrate of silver in infantile dysentery	260
Gastrodynia, treatment of	56
Gastrotomy in obstructed œsophagus	94
Glottis, spasm of in the adult	203
GOLDING, Dr. R. C. on the pneumonia and bronchitis of infants	170
on the vaginal discharges of children	178
Gout, proximate cause of	62
on the contagion of	207
GOZZO, M. on rupture of the unimpregnated uterus	244
GRAVES, Dr. on the treatment of cholera	179
notice of a second edition of his Clinical Lectures	185
on a particular affection of the portio dura	200
GREGORY, Dr. GEORGE, on ophthalmia	189
Gunshot wounds, treatment of	101
questions concerning amputation after	103
gangrene after	103
dilatation of	105
extraction of foreign bodies from	ib.
bloodletting in	106
internal remedies in	107
topical applications in	109
secondary hæmorrhage in	110
purulent absorption in	111
hospital gangrene after	ib.
general observations on	225
Gutta serena, surgical uses of	126
HALL, Dr. RADCLIFFE, on the treatment of cholera	24, 180
HANCOCK, Mr. case of disease of the appendix cæci cured by operation	233
HANCORN, J. R. Esq. on the treatment of cholera	23, 180
Hare-lip, improved operation for	231
HASTINGS, Dr. on a case of paralysis from arsenic	199
Heart, spasm of, editorial opinions respecting	203
statistics of valvular disease of	204

Hæmorrhage from the umbilical cord	259
secondary in gunshot wounds	110
uterine, bitartrate of potash in	155
turpentine in	214
Hemp, Indian, its active principle	ib.
HERAPATH, Dr. case by, of emphysema after hooping-cough	47
Hernia, strangulated by a band of lymph	84
Mr. VINCENT on	93
cases by Mr. ALLAN	234
Herniotomy	235
HILL, Dr. (Peckham), on chloroform in cholera	189
Mr. on hæmorrhage from the umbilical cord	259
HINTON, Mr. on the galvanic plates	216
Hip-joint, successful amputation at	126
excision of the head of the femur in caries of	131
HOCKIN, Mr. test for purity of cod-liver oil, by	213
HOWARD, Dr. R. case of ischio-rectal abscess simulating dislocation of the femur	141
HUGHES, Dr. on pneumonia	203
Hydriodate of iron and quinine	214
Hydrophobia, Dr. WRIGHT's experiments on	192
Dr. ECKEL on	193
treatment of, by chloroform	195
Hysteria, remarkable case of	36
Intestinal obstruction, Mr. PHILLIPS on	233
caused by displacement of the spleen	234
enterotomy in, cases	122
JENKINS, Mr. C. E. on the treatment of cholera	21, 180
KEITH, Dr. on anæsthesia in midwifery	243
KELLY, THOMAS, Esq., case of neuralgia cured by creasote	36
KENNEDY, Dr. HENRY, on nervous influence and derangement	28
LANE, Dr. BUTLER, on the connexion between the functional derangements of the liver and uterus	244
LAVENDER, Dr. on congestive fever	187
LARGH, Dr. on a new mode of resection of the bones	118
LEE, Dr. T. SAFFORD, on the diagnosis and treatment of retroflexio uteri	146
LEE, Dr. notice of a second edition of his Clinical Midwifery	241
LEWIS, Dr. (U.S.) on the cause of œdema of the extremities in phthisis	203
Life, fœtal and embryonic, value of	259
Liver and uterus, connexion between the functional derangements of	244
LOMBARD, M. on cutaneous incisions in dropsies	74
Lupus, cod-liver oil in	77
LYELL, Dr. case of monster by	259
LYON, W. on the uses of gutta percha in surgery	126
McCANN, Mr. his treatment of cholera	180
McILWAIN, Dr. case of prolonged gestation	248
MALCOLM, Dr. his experience with chloroform in midwifery	243
Maxilla, superior, case of extirpation of	232
MEIGS, Dr. on prolapsus uteri simulating acute peritonitis	156
on the use of medicated "sachets"	170
on fainting after delivery	255
notice of a work by, on the Diseases of Women	240
the contagion of puerperal fever denied by	255
Mercury, in fractional doses	213
MERRIMAN, Dr. WILLIAM, on anæsthesia in midwifery	241
MILLER, Dr. on the treatment of ununited fractures by subcutaneous incision	239
MITCHELL, Dr. on solution of gun-cotton in ulcerated os uteri	246
MOIR, Dr. his experience with chloroform in midwifery	243
Monsters	259
Morbus Brightii, pathology of	60
Myringitis, pathological sequences of	85
Naphtha in cholera	212
NELIGAN, Dr. on the eruptive diseases of the scalp	76
Nervous influence and derangement	28
Neuralgia treated by creasote	36
Indian hemp	200

Nitrate of potass in rheumatism	69
of silver, concentrated solution of, in ptyalism	56
NUNNELEY, Mr. on local anæsthesia	244
"Ochlesis"	189
Œsophagus, gastrotomy in stricture of	94
cancer of, opening into the aorta, case	232
O'FERRALL, Dr. on pendulous tumours	226
Os uteri, excision of the anterior lip of	155
occlusion of	160
difficult labour from	251
solution of gun-cotton in ulceration of	246
OTTLEY, Mr. notice of a work by, on Diseases of the Head and Neck	231
Ovarian dropsy, Dr. TILT on	246
Ovariectomy, fatal cases of, by Mr. POTTER and Mr. ARNOTT	246
successful case	246
opinion of Drs. MEIGS and ASHWELL on	246
Paralysis from arsenic	199
with atrophy	199
PAPILLAUD, Dr. on dysentery	58
PATERSON, Dr. on the treatment of cholera	180
PEARL, Mr. on the contagion of gout	207
PEDDIE, Dr. on a sign of early pregnancy	247
PEEBLES, Dr. on some injurious effects of tartar-emetica	214
Pelvis, dislocations of, cases	83
Periodoscope, the, description of	248
Peritonitis simulated by prolapsus uteri	156
Pessaries, medicated, those chiefly used by Professor SIMPSON	170
Phthisis, cause of œdema in	203
PIRRIE, Dr. cases of internal hernia, by	84
on herniotomy	235
Placenta, extraction of before the child, cases	254
Pleuritis and emphysema in children	260
Pneumonia, clinical lecture on	43
Dr. HUGHES on	203
recovery from without crepitus	203
Portio dura, peculiar affection of	200
PRANKERD, M. on a case of fungus of the brain	196
Pregnancy, sign of early	247
early, and delivery	ib.
laws regulating the duration of	ib.
prolonged	268
extra-uterine	249
dropsy during	ib.
Prolapsus uteri simulating peritonitis	156
medicated "sachets" in	170
Dr. MEIGS and Dr. ASHWELL on	245
Ptyalism, treatment of by a concentrated solution of nitrate of silver	56
PUREFOY, Dr. on dystocia from vaginal cicatrices	251
Puerperal fevers, classification of	255
Puerperal convulsions	258
Puerperal fever, contagion of	256
treatment of	ib.
quinine a prophylactic in	257
Purulent resorption, preventive treatment of	96
Quinine, a prophylactic in puerperal fever	257
RADFORD, Dr. on the value of fetal and embryonic life	259
on torsion, doubling, and expulsion of the fetus	252
RANKING, Dr. case of coma from retained biliary secretion	31
REGNAULT and DEVILLIER, MM. on dropsy of pregnancy	249
Retroflexion of the womb, diagnosis and treatment of	146
Rheumatism, acute, treatment of	67
nitrate of potash in	69
RICORD, M. on the diagnosis of secondary syphilitic eruptions	78
distinction between syphilitic and scrofulous affections of the bone	82

RICORD, M., opinions of, on venereal diseases, summary of	91
treatment of ditto	120-122
ROBERT, M. cure by, of contraction of the muscles of the legs, &c. from a rheu- matic affection	126
ROBERTSON, Dr. notice of a work by, on Diet and Regimen	210
Roseola punctata	209
"Sachets," medicated	170
SALTER, Mr. on tubercular disease of the brain	195
Scalp, eruptive diseases of	76
SCHWEICH, Dr. on the use of arsenic in furunculus and acne	80
SEDILLOT, M. on gastrotomy in obstruction of the œsophagus	94
SHEARMAN, Dr. on the treatment of cholera	180
Shoulder-joint, congenital malformation of	140
SIBSON, Mr. on the movements of respiration in health and disease	200
SIMPSON, Dr. on the application of the long forceps	165
on medicated pessaries	170
on local anæsthesia	223
report by, on the results of anæsthesia in midwifery	242
on turning in narrow pelvis	252
cases of rupture of the uterus	255
SIMS, Dr. on trismus nascentium	198
Skin diseases, notice of Mr. WILSON's Plates on	208
classification of	208
SMITH, W. R., Esq. on a congenital dislocation of the shoulder	82
HENRY, Esq. on excision of the head of the femur	131
Dr. TYLER, on the prevention of abortion	156
on the periodoscope	248
Dr. PROTHEROE, on the religious objections to anæsthesia in midwifery	241
his experience of chloroform in labour	243
Mr. (Coventry), case of early pregnancy and delivery	247
Spongio-piline, account of	219
Spontaneous evolution, Drs. CLAY and RADFORD on	251
SPRONG, Mr. on catheterism	236
SPRY, Mr. on local anæsthesia	224
STEWART, Dr. case of hydatids of the brain, by	197
Stomatitis, Dr. WEST on	51
Stramonium, an emmenagogue	215
Strangury, liquor potasse in	62
Stricture, irritable, treatment of	130
Strychnine in cholera	21
SYLVESTER, Dr. on bitartrate of potash in uterine hemorrhages	155
SYME, W. on the treatment of callous ulcers	123
Syphilitic eruptions, diagnosis of	78
Tartar emetic, in cholera	24
injurious effects of	214
Tendons and ligaments, diagnosis of injuries of	81
Tetanus, Dr. WILMOT on	197
Therapeutics, in relation to depuration of the blood	211
of galvanism	215
THOMPSON, JOSEPH, Esq. on the epileptic form of puerperal convulsions	258
TILT, Dr. on the treatment of ovarian dropsy	246
TODD, Mr. on tartar emetic and opium in febrile delirium	195
Dr. BENTLEY, on diabetes	206
Tracheotomy, interesting case of	232
TRASK, Dr. on occlusion of the os uteri and vagina	160
on rupture of the uterus	162
Trismus nascentium	198
Trochanter, excision of	237
TROUSSEAU, M. on fractional doses of mercury	213
Tumour uterine, spontaneous expulsion of	169
pendulous, history of	226
TURNBULL, Dr. JAMES, on acute rheumatism	67
Turning, in narrow pelvis, Drs. SIMPSON, COLLINS, and WILSON on	252
Turpentine, in typhoid fever	20
in hemorrhages	214

TYLER, Dr. ALEXANDER, on the use of the forceps	167
Tympanum, caries of, and its consequences	85
Typhoid fever, warm baths in	187
turpentine in	20
and typhus, diagnosis of	186
Typhus fever, treatment of	17
exanthematous nature of	187
convulsions in	ib.
Ulcers, callous, treatment of	123
Umbilical cord, hemorrhage from	259
Urethra, strictures of	236
treatment of irritable stricture of	130
Urine, ergot in retention of	62
Uterine hemorrhage, bitartrate of potash in	155
Mr. NEWNHAM on	254
unavoidable, incision of the os uteri in	ib.
appendages, abscess of	150
Uterus, displacements of	145
retroflexion of	146
rupture of	162, 254
the unimpregnated	244
and liver, relation between	ib.
strumous disease of	ib.
excision of the neck for carcinoma	246
prolapse of, during labour	251
Vagina, removal of a fibrous tumour from	246
dystocia, from cicatrices of	251
occlusion of	160
discharges from, in children	178
VELPEAU, M. on the surgical treatment of gunshot wounds	101
Velum palati, extirpation of	232
Venereal disease, M. RICORD on	91
treatment of	120
Vesico-vaginal fistula	236
VINCENT, Mr. on dynamics applied to surgery	92
on the treatment of irritable stricture	130
WALKER, Dr. on spasm of the glottis in the adult	203
WATTS, Dr. WILLIAM, on diabetes	69
WATSON, Dr. (U. S.) case of complete prolapsus uteri during labour	251
WELLS, Mr. on the therapeutics of galvanism	215
WEST, Mr. R. remarkable case of hysteria by	36
Dr. on stomatitis	51
infantile diarrhœa	176
Wharton's duct, removal of a foreign body from	123
WHITE, Mr. ANTHONY, on the proximate cause and treatment of gout	62
WILMOT, Mr. on tetanus	197
strictures of the urethra	236
WILSHIRE, Dr. on the diagnosis of typhoid and typhus fever	186
WILSON, Mr. ERASMUS, notice of his Portraits of Skin Diseases	208
on roseola punctata	209
Dr. (Glasgow) on turning in narrow pelvis	253
WOOD, Dr. GEORGE B., on the treatment of typhus fever	17
turpentine in typhoid fever	20
the treatment of cholera	179
notice of a treatise by, on the Practice of Medicine	185
on the diagnosis of typhoid and typhus	186
on congestive fever	187
Wounds, gunshot, general observations on	225
WRIGHT, Dr. experiments by, on hydrophobia	192
YEARSLEY, Mr. on a new mode of treating deafness	98
ZERONI on croup	172



HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES.

JANUARY—JUNE

1849.

LIST OF BRITISH AND FOREIGN PERIODICALS REFERRED TO IN THE "HALF-YEARLY ABSTRACT."

BRITISH.

British and Foreign Medico-Chirurgical Review.
Medico-Chirurgical Transactions.
Edinburgh Medical and Surgical Journal.
London and Edinburgh Monthly Journal.
London Journal of Medicine.
Journal of Psychological Medicine.
Dublin Quarterly Journal of the Medical Sciences.
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Medical Times.
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AMERICAN.

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Philadelphia Medical Examiner.
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Boston Medical and Surgical Journal.
Southern Medical and Surgical Journal.
British American Journal of the Medical Sciences.

FRENCH.

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Canstatt's Jahresbericht.
Buchner's Repertorium.
Haller's Archives für Physiolog. und Patholog. Chemie.
Casper's Wochenschrift.
Poggendorf's Annalen.

N. B.—Every periodical here specified is consulted *directly* by the Editor and his Coadjutors.

THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BEING

A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED
IN THE PRECEDING SIX MONTHS.

TOGETHER WITH

A SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND THE
COLLATERAL SCIENCES DURING THE SAME PERIOD.

EDITED BY

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Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.—CICERO.

Vol. ~~NO.~~ IX.

JANUARY—JUNE 1849.

PHILADELPHIA:
LINDSAY AND BLAKISTON.

1849.

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PHILADELPHIA:

T. K. AND P. G. COLLINS, PRINTERS.

CONTENTS.

PART I.—PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—*Zymotic Diseases.*

ART.	PAGE
1. Treatment of Erysipelas by Congelation. By James Arnott, M. D.	17
2. Clinical Lecture on Dropsy after Scarlet Fever. By R. B. Todd, M. D.	21
3. On Dropsy after Scarlatina. By J. W. Tripe, Esq.	25
4. Treatment of Dropsy after Scarlet Fever. By Dr. Scott Alison	26
5. On Inunction with Lard in Scarlatina	27
6. Employment of Cupping-glasses to the Spine in Intermittent Fever. By M. Gondret	ib.

SECT. II.—*Diseases of the Nervous System.*

7. On the Neck as a Medical Region, and on Paroxysmal Paralysis. By Dr. Marshall Hall	28
8. Clinical Lecture on Paralysis of the Portio Dura. By R. B. Todd, M. D.	34
9. Remarkable Spasmodic Affection of the Muscles supplied by the Portio Dura. By Dr. Ranking	38
10. Singular Spasmodic Action of the Lower Jaw. By Dr. Spittal	39
11. Case of Acute Cerebro-Spinal Arachnitis. By Dr. Robert Mac Donnell	41
12. Anomalous Case of Spinal Affection. By Dr. Golding Bird	43
13. On the Therapeutic Value of Electro-Magnetism in Rheumatic Paralysis. By Dr. William Davies	46
14. Case of Periodic Convulsions cured by Electro-Magnetism. By Dr. Byrne (U. S.)	49
15. Treatment of Tic Douloureux by Injecting the Antrum Maxillare with a Solution of Lunar Caustic. By Dr. Hüllihen	50

SECT. III.—*Diseases of the Respiratory System.*

16. Oedematous Laryngitis successfully treated by Scarification of the Glottis and Epiglottis. By Dr. Gordon Buck, jun.	52
17. On the Physical Signs of Pleurisy and its consequences. By Dr. E. J. Shearman	54
18. On the Cachectic Asthma of the Aged. By Dr. G. E. Day	56
19. On the Use and Administration of Cod-Liver Oil in Phthisis. By Dr. C. J. B. Williams	57

SECT. IV.—*Diseases of the Circulatory System.*

20. Table of the Pulses in Diseases of the Heart	59
21. On the Signs of Diseased Heart afforded to the Hand laid over the Precordia. By Professor Jaksch	ib.

SECT. V.—*Diseases of Variable or Uncertain Seat.*

22. On the Treatment of Acute Rheumatism. By R. B. Todd, M. D.	60
23. Rheumatic Gout treated by Lemon-juice. By Dr. Owen Rees	64

SECT. VI.—*Diseases of the Urinary System.*

ART.	PAGE
24. On the Diagnosis and Treatment of Pyelitis Calculosa. By M. Rayer and Dr. Bryan	65
25. Clinical Lecture on Hæmaturia. By R. B. Todd, M. D.	73
26. On Diminished Secretion of Urine in Advanced Life. By Dr. G. E. Day	78

SECT. VII.—*Diseases of the Skin, &c.*

27. General Remarks on the Diagnosis and Treatment of the Diseases of the Skin. By Dr. J. H. Burgess	79
28. On Collodion in the Treatment of Skin Diseases. By Erasmus Wilson, Esq.	82
29. Treatment of Prurigo	83

PART II.—SURGERY.

SECT. I.—*Symptomatology and Diagnosis of Surgical Diseases.*

30. On the Diagnosis and Treatment of Fissure of the Rectum. By Bransby B. Cooper, F.R.S.	84
31. On the Differential Diagnosis of Varicocele and Hernia. By Dr. L. R. Thompson	85
32. Case in which a Halfpenny impacted in the Pharynx was mistaken for the Irritation of Teething. By Dr. Ogier Ward	86
33. Case exemplifying the Difficulty of Diagnosing Stone in the Bladder. By Samuel Solly, F.R.S.	ib.
34. Aneurism of the Carotid Artery simulating Cynanche Tonsillaris	87

SECT. II.—*Nature and Causes of Surgical Diseases.*

35. Cases of Rupture of the Urinary Bladder. By Dr. Eben Watson	88
36. Case of Incomplete Reduction, <i>en masse</i> , of an Inguinal Hernia, with Remarks. By James Reid, Esq.	92
37. Strangulated Hernia returned <i>en masse</i> by Taxis—Operation required. By M. Homolle	95
38. History of a Foreign Body lodged in the Oesophagus for nearly five months, and proving fatal by Ulcerating into the Trachea. By R. Patterson, M.D.	97
39. Case of Suffocation from Closure of the Glottis by a piece of Meat. By R. P. Cotton, M.D.	99

SECT. III.—*Treatment of Surgical Diseases.*

40. Farther Observations on the Use of Collodion in Surgery	100
41. On the Treatment of Ulcers of the Lower Extremity. By G. Critchett, F.R.S.	103
42. Cystorrhœa—Discharge of Phosphatic Calculi—Cure by Injection. By Thomas Balman, Esq.	108
43. On the Treatment of Stone in the Female. By Bransby Cooper, F.R.S.	110
44. Varicocele treated by Pressure. By J. R. Thomson, M.D.	111
45. New Operation for the Cure of Varicocele. By S. D. Gross, M.D.	113
46. Magneto-Electricity in Hydrocele. By H. R. Frost, M.D.	114
47. Description of a Truss for Congenital Hernia. By W. Coates, M.R.C.S.	115
48. On the Employment of Sugar of Lead in Strangulated Hernia	ib.
49. On the Treatment of Fractures of the Thigh-bone in Infants. By Edward F. Lonsdale, Esq.	116
50. Notes from a Clinical Lecture on Morbus Coxarius. By Professor Syme	117
51. Treatment of Hemorrhoids	118
52. New Mode of performing Lithotomy by the Rectum. By M. Maisonneuve	119
53. Instrument for Plugging the Nostril. By C. Edwards, M.D.	120
54. Simple Dislocation of the Astragalus reduced by Division of the Tendo-Achillis. By J. G. Crosse, F.R.C.S.	121

ART.	PAGE
55. Extensive Ulceration of the Perineum of Syphilitic Origin, cured by large doses of Conium. By E. A. Lloyd, Esq.	121
56. New Mode of treating Urethral Pains following Gonorrhœa. By M. Vidal (de Cassis)	124
57. On Sulphate of Bebeerine in Strumous Ophthalmia. By H. L. Williams, M.D.	ib.
58. Lecture on Gonorrhœal Ophthalmia. By Haynes Walton, F.R.C.S.	126

SECT. IV.—Rare Surgical Cases.

59. Case of Congenital Glossocele—Operation. By W. G. Delaney, M.D.	129
60. Fracture of the Neck of the Femur within the Capsule—Bony Union	131
61. Reduction of a Dislocation forwards of the Fifth Cervical Vertebra	ib.
62. Compound Dislocation of the Right Humerus. By Haynes Walton, F.R.C.S.	ib.
63. Large Tumour of the Superior Maxillary Bone—Removed by Operation, by Professor Pancoast	132
64. Ligation of the Left Subclavian, with Remarkable Deviation of the Vessel. By J. Mason Warren, M.D.	133
65. Operation for Artificial Anus. By the same	136
66. Abscess of the Spermatic Cord, complicated with Hernia, &c. By W. P. Brookes, M.D.	140

PART III.—MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—Midwifery, and Diseases of Women.

67. On the Nature and Treatment of the various Forms of Ovaritis. By E. J. Tilt, M.D.	144
68. On Congestive Dysmenorrhœa, with an Account of a New Depletory Apparatus. By James Whitehead, F.R.S.	148
69. On the Use of Bichloride of Mercury in Hypertrophy and Induration of the Cervix Uteri. By Dr. Oldham	151
70. On the Treatment of Uterine Catarrh by Injections into the Uterine Cavity. By Dr. Strohl	155
71. On Cerebral Disturbance, the Result of Uterine Disorder. By G. Corfe, M.D.	156
72. Case of Hydrometra in an Unimpregnated Uterus	158
73. On the Treatment of Chlorosis. By Dr. R. C. Golding	ib.
74. Sore Nipples treated by Solution of Gun-Cotton	159
75. On Prolapsus Uteri. By Professor Hohl	160
76. Excerpta from Lectures, by Dr. Tyler Smith	161
77. Observations on some Forms of Uterine Hemorrhage, in connection with Delivery of the Placenta. By Robert Cane, M.D.	165
78. Puerperal Convulsions. By Dr. Murphy	166
79. Use of Ice to promote Uterine Contraction	167
80. Treatment of Rigidity of the Os Uteri during Labour	ib.

SECT. II.—Diseases of Children.

81. On the Continued Fevers of Childhood. By Dr. West	167
82. On Typhoid Fever in Childhood. By Dr. Wilshire	169
83. On Eclampsia Nutans, or the "Salaam" Convulsion of Infants. By William Newnham, Esq.	172
84. Treatment of Croup, by the Application of Nitrate of Silver to the Interior of the Larynx. By Dr. Bryan	174
85. Cases of Membranous Laryngitis in which Tracheotomy was successful. By C. D. Meigs, M.D.	175
86. On the Intestinal Hemorrhages of Newborn Children. By Dr. Rilliet	176
87. Treatment of Spina Bifida	180
88. On the Purulent Ophthalmia of Infants	181

REPORTS.

ART.	PAGE
1. Report on the Progress of Practical Medicine, Pathology, and Therapeutics. By the Editor	185
2. Report on the Progress of Surgery. By C. Lockhart Robertson, M. D.	226
3. Report on the Progress of Midwifery, and Diseases of Women and Children. By the Editor	267
4. Report on the Progress of Anatomy and Physiology	290

List of Books received	332
Index to Vol. IX	333

ABSTRACT OF THE MEDICAL SCIENCES,

&c. &c.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—ZYMOTIC DISEASES.

ART. 1.—*Treatment of Erysipelas by Congelation.*

By JAMES ARNOTT, M. D.

(*Medical Gazette*, March 2, 1849.)

[DR. ARNOTT's endeavours to call the attention of the profession to the important effects which may be produced by the judicious employment of heat and cold, have been already commented upon in a former volume (VII. p. 253). In the present communication we lay before our readers one of the special applications of his mode of treatment, which, though strongly opposed to prevailing notions, is, nevertheless, on the testimony of the cases adduced, deserving of at least an impartial investigation.]

The congelation or freezing of the animal textures produced by powerful frigorific mixtures, may be considered in its threefold character of a remedy, a prophylactic, and an anæsthetic or preventive of pain in surgical operations.

Congelation is a remedy of many diseases affecting the nervous and vascular systems. Of external inflammation it is a certain, speedy, safe, and agreeable remedy.

Certain, because wherever congelation can be produced, inflammation ceases. Every other remedy of inflammation, as bloodletting, antimony, mercury, minor degrees of cold, &c., are more doubtful in their effects.

Speedy, because congelation instantly arrests inflammation. The congestive state which sometimes succeeds, has nothing of the character of inflammation, and none of its consequences. Where the degree or duration of the refrigeration has been insufficient, or where the cause of the disease continues to operate, the inflammation will, after a considerable period, return; but a reapplication of the remedy will again immediately arrest it.

Safe, because in no instance, of hundreds in which it has been employed, has congelation been productive of any injury or untoward effect. Bloodletting often proves destructive, by prostrating the vital power required for reparation; and the other remedies have all their respective evils or dangers. Still, as every other potent remedy may be abused, so might congelation prove prejudicial, if too long continued, or if produced by frigorific mixtures of greater power than is required. In some cases it may be proper that congelation should be followed by the application of the "current apparatus," or the means which I have introduced for regulating local temperature with precision, in order to obviate reaction of the deeper tissues.

Agreeable, because it is speedy,—because it instantly benumbs the part.

and relieves the pain accompanying inflammation. Excepting a slight tingling when the congelation commences, and for a few minutes after its cessation, this therapeutical agent causes no unpleasant sensation; such as the pain from the operations by which blood is extracted, or the fainting thus produced; the nausea and vomiting from antimony; the soreness of the mouth from mercury; the pain from scarification in phlegmonous erysipelas, &c.

The prophylactic virtue of congelation is the power which it possesses of preventing inflammation of parts which have been subjected to its influence. Wounds produced by surgical operations (as already stated in my paper in the *Medical Gazette*, of December 1st), have invariably appeared to heal more speedily after, the application of congelation, than under the usual circumstances, and probably on account of the absence of any injurious degree of inflammation. Indeed, it was the observation of this effect of congelation in preventing inflammation, which led to its use as a remedy of the same condition; and conversely, had it been first used as a remedy, its preventive power would probably have been as soon discovered. This property of preventing injurious vascular excitement ought alone, and independently of its anæsthetic virtues, to render the use of congelation a preliminary to surgical operations, for even the smallest of these occasionally proves fatal in consequence of inflammation. A sad illustration of this has recently been afforded by the lamented death of a distinguished statesman, who fell a victim to the consequences of a very trifling operation performed to remedy an inconvenience so slight that it could scarcely be called disease.

The third medical property of congelation, is its power of preventing pain in surgical operations. Its excellence in this respect, compared with ether or chloroform, consists, first, in its power of producing local anæsthesia, while the consciousness of the patient remains undisturbed; and, secondly, and especially, in its perfect safety. Since the publication of my former remarks on this subject, other *sudden* deaths from chloroform have been reported by the press: of *eventual* fatal consequences and other mischiefs there is no record.

The remedial powers of congelation in inflammation are proved by the following cases of erysipelas, in which it was employed:—

To the philosophic physician, acquainted with the history of the treatment of erysipelas, the announcement of a new remedy for it will probably at first appear only as another example of the common fallacy of attributing the cure of a disease to the use of a medicine, or remedial means, merely because the disease ceases after it has been administered. But, there is this essential difference between the means now recommended, and the numerous and diversified expedients hitherto resorted to in erysipelas, that the former has, in almost every instance in which it has been employed, produced an immediate and very obvious beneficial effect; whereas the latter, it will be generally admitted, have just as frequently appeared to be inert or injurious, as to be efficient and useful.

Congelation, in respect to its use in erysipelas, is what is termed a rational remedy. Its analogies with other acknowledged remedies of inflammation would recommend its employment in this disease. Much of the danger of the erysipelas which affects the face and neck unquestionably proceeds from the extensive and severe inflammation of the skin; and to the suppression of this the efforts of physicians have been directed. Now, as cold is a remedy of inflammation of admitted efficacy, it is reasonable to suppose that by subjecting the diseased tissue, and this alone, to a short application of a much greater degree of cold than has hitherto been employed, a greater depressing or anti-phlogistic power may be exerted. Again, as experience would show that bleeding, when it produces syncope, is a more certain mode of checking inflammation than when it does not produce that effect, so severe cold or congelation, which, like fainting, checks the circulation of blood through the part subjected to it, may likewise be useful for the same reason, and under the same circumstances. The morbid action of the bloodvessels being thus arrested for a time, the healthy circulation may, by the efforts of nature, be immediately afterwards restored. Such reasonings, however, are of little importance in comparison with the following facts:—

CASE I.—Charlotte Shepherd, 10 years of age, living at 17 New Dorset street, became a patient of the Brighton Dispensary on the 15th of November, 1848. When I first saw her, two days afterwards, there was much swelling and redness of the face, and the eyes were closed. Considerable fever was present, and, occasionally, delirium. She had been purged, and had taken antimonial and saline medicines without any mitigation of the symptoms. I applied a mass of pounded ice and salt, by means of a flat sponge, to each side of the face for about a minute, or until large patches of the skin had become white and hard, or, in other words, frozen. She did not complain of the application, but, on the contrary, appeared to obtain immediate relief. The salt was washed off the face, and the saline mixture ordered to be continued.

17th. The erysipelas has extended to the neck, and has returned to one side of the face and the ear. Increase of delirium and of the general febrile symptoms. The frigorific was again applied as before to the inflamed surface, and with the same immediate beneficial result. To take a laxative, and to continue the mixture.

18th. The fever and delirium subsided towards the evening of yesterday. The swelling has now quite left the face, and nearly the neck.

From this period the convalescence was rapid. Little medical treatment, besides attention to diet, was deemed necessary during the remaining period of attendance.

A younger sister of this girl was attacked with erysipelas about a month afterwards, and died after a fortnight's illness. The fever was typhoid, and she gradually sunk from exhaustion. She was judiciously treated by moderate antiphlogistic remedies in the first, and by tonics and stimulants in the latter stage. My opinion was requested towards the end; but I did not think that congelation could then be of service. I now regret that it was not employed, as, without putting the patient to the least hazard, it would have removed or lessened one cause of asthenia, and diminished one source of suffering.

CASE II.—W. Mansfield, aged 47, residing at No. 1 Leicester street, admitted a patient of the Dispensary, with erysipelas, on the 12th of January, 1849. Was seen at first by the house-surgeon, who prescribed a laxative, and a saline mixture containing antimony. When I took charge of the case on the 14th. I found him labouring under the disease in the severest form. He had been very delirious during the night, and continued to be excited, and at times incoherent. The face was much swelled and distorted, and the eyes closed. He complained of a very painful sense of burning in the inflamed parts. There was much fever. I applied pounded ice and salt in a piece of thin silk gauze to the whole of the inflamed surface, by shifting the bag from place to place, and with the effect of freezing large patches of the skin. Each application may have lasted nearly two minutes. There was a little smarting during, and immediately after the congelation, but this was succeeded by complete relief. To continue the medicine already prescribed.

15th. The inflammation on the face hardly perceptible, but it has extended all round the neck, and the pain is severe. Passed a restless night, and the fever, which had subsided for about twelve hours, again rose to its former height. The frigorific was again repeated, and kept in contact with the different portions of the inflamed skin, until nearly the whole had become white and frozen. A mixture containing quinine to be substituted for the saline medicine.

16th. Little appearance of inflammation on any part of the face or neck, and no uneasiness. Slept better in the night, though occasionally incoherent.

The fever has decreased. To continue the tonic and to take wine.

From this time, and under the same tonic remedies, he recovered rapidly.

[A third case is given, which for brevity's sake we omit.]

It will have been remarked, in perusing the details of the above case, that the beneficial effects of congelation were immediate, and otherwise so well marked, as to prevent any doubt of its efficiency. In this respect it is strikingly in contrast with the remedies hitherto employed in erysipelas. The practice of scarifying the inflamed surface, or puncturing it all over with a lancet, may frequently be of some service, notwithstanding the irritation which the

wounds themselves, and their exposure to the air, must necessarily produce; but the painting of the part with lunar caustic, and the application of warm fomentations or cold lotions, I am disposed, from my own observations, to place, with respect to efficiency, in the same category with the old practice of the application of flour.

The absence of all injurious effect, or untoward consequence, from the congelations that were used, will also be equally obvious. The cerebral disturbance was uniformly relieved; and, had the patient whose case is last related been of more advanced age, so that a solution of salt of about the temperature of zero might have been easily applied to the mouth and fauces, her disease, I have little doubt, would have had an earlier termination. A stronger application of congelation to the face, might, perhaps, have had a similar effect, by preventing the extension of the inflammation to the mucous surface.

The applications of severe cold were generally slight, and I am inclined to think that they would have been more efficacious had they been less so; that there might, at least, have been less necessity for repeating them. But there is, probably, no great difference, as respects the safety of the patient, between at once removing the inflammation and the susceptibility of its renewal, and checking it again and again on its approach; unless, indeed, the disposition to spread, just adverted to, be thus prevented. Some of the applications were milder than was desirable, on account of a defect in the means employed. If ice and salt be the frigorific resorted to, it is proper, where the skin is acutely inflamed, and consequently greater frigorific power is required, to employ it in the best or most effectual manner, as on the last occasion of its being applied in the third case. The greater expenditure of material, now that ice can be everywhere procured at trifling cost and in every season, is a point of no importance.

Although congelation may have no power in shortening the period of erysipelatous fever, or preventing it running through its several stages (and it certainly did not appear to have this power in the third case related), it will obviate the danger that would arise from the accompanying external or accessible inflammation. The danger from smallpox is, *cæteris paribus*, very much in proportion to the extent and degree of the inflammation of the skin, and particularly, in the opinion of Sydenham, of the skin of the face. It is this, probably, which makes the great distinction, in respect to danger, between the distinct and confluent species; and the same principle probably applies to erysipelas. A high and extensive inflammation must (as has likewise been remarked by Sydenham) necessarily increase the febrile action in this disease, or cause, as it were, a symptomatic fever in addition to that which is specific, and tend to exhaust the animal powers—tend, in fact, to produce or aggravate the asthenia which in erysipelas is usually the cause of death. Inflammation of other systems or organs, occurring in typhus or other febrile diseases, must for the same reason, and independently of any consequent disorganization, materially increase their danger; but in all such cases, whether the skin or internal organs be affected, there is, in addition, the irritation or injurious influence proceeding from the disturbance of the function of the inflamed part. It is, therefore, not only in erysipelatous fevers that congelation will be found a remedy of great importance in subduing local affections; it will probably be also very serviceable in other analogous diseases, accompanied with inflammation of superficial or accessible parts. The skin, mouth, and throat, are obviously under its control: the windpipe and cerebral membranes are probably not beyond its reach. If the latter do not admit of congelation, they may have their temperature reduced to a much greater degree than has hitherto been attempted, and with great remedial advantage. The point to be aimed at is, perhaps, not so much congelation, as that degree of refrigeration which will *permanently* depress the nervous and vascular energies, or depress them without causing reaction. This must be far below the degree to which any application of water or ice will reduce the temperature of the part.

The notion that certain external inflammations are, even to their full existing amount, necessary safety valves or emunctories for the *materies morbi*, or are otherwise essential to the patient's safety, is now, happily, nearly exploded.

Physicians have become well aware that hypothesis, or ill-founded theory, has formed the grand impediment to the progress of the art of healing; and in no instance has the superiority of observation to theory been more remarkable than in the modern treatment of erysipelas. Amongst other means of subduing the external inflammation, cold applications are now generally recommended; and in this improvement there is only a return to the practice of Celsus (Book v. cap. 26), and of his successors for many ages. In confirmation of the downfall of the doctrine of metastasis from cold, the published lectures on the practice of physic of two distinguished professors in the colleges of the London University, and the lectures of the present occupants of the chairs of surgery in the medical schools of St. Bartholomew's Hospital and University College, may be referred to. "There is no hazard," says Dr. Watson, speaking of the use of cold in erysipelas, "such as you may read of, of the inflammation being repelled from the surface, and driven in upon some vital organ." But, even granting that cold, as it has hitherto been usually applied, is dangerous in certain specific inflammations from its tendency to cause metastasis (and there is little authority in favour of its use in rheumatism or gout), it must be especially borne in mind that there is a wide difference between congelation and such applications of cold. At first it might appear to differ only in degree—in being greater than these, and consequently more dangerous; but, in truth, it is much less a cooling application. If a physician wished to heat the limb of a patient, he would surely keep it immersed for half an hour in warm water, in preference to applying a red-hot iron for a few seconds to the skin; and he would, in cooling a limb, make a similar distinction between continued cold and momentary freezing. Dangerous as plunging a limb affected with gout into cold water, according to Harvey's plan, may be, the same objection would not apply to the exactly limited and short application of congelation to the affected part; and the same observation would apply to the treatment of many varieties of rheumatism. Analogy, on the contrary, would point out such a remedy as one likely to be eminently useful in these complaints, in allaying suffering and preventing the disorganization of joints, while appropriate medicines were simultaneously exhibited as antidotes to, or evacuates of, the supposed *materies morbi*.

ART. 2.—*Clinical Lecture on Dropsy after Scarlet Fever.*

By R. B. TODD, M.D. F.R.S.

(*Medical Gazette*, Feb. 23, 1849.)

There is a remarkable form of dropsy of which, I think, no adequate explanation has as yet been offered. This is a *general dropsy*, affecting not only the whole of the subcutaneous areolar tissue, but very frequently the serous sacs, the pericardium, the peritoneum, and the pleura, often the ventricles of the brain, and even in some instances the areolar tissue of the lungs. The dropsy to which I refer is that which follows scarlet fever.

The *conditions* of this dropsy are—1st, a particular state of the *skin*; 2d, a particular state of the *kidney*; and 3d, I would add, a particular state of the *blood*: and I think you do not get the dropsy fully developed without the concurrence of all three conditions: if any one of them is absent, you may have a threatening of the dropsy, but the full result does not follow. Thus you may have the peculiar state of the blood, and the peculiar state of the kidney; but if the state of the skin be normal, the dropsy will be slight, or *nil*. Just so, when the peculiar conditions of the blood and of the skin are present, but the kidneys are healthy; and even if the particular state of the kidney and skin both existed, and under such circumstances you could scarcely have a healthy state of blood; yet, if the state of that fluid did not correspond with that which is favourable to dropsy, you would have other symptoms—head affections, for instance—but there would be no dropsy.

You will find a good illustration of the ordinary clinical history of this dropsy in the case of a little boy, Thomas Dunn, *æt.* 5. He seems to have had mild scarlatina, and swelling appears to have come on shortly after the commencement of the desquamative stage. When he came into the hospital he was suf-

fering from universal dropsy, affecting even his peritoneum. His skin was puffed out everywhere, especially over the penis, scrotum, extremities, and face, and it had that peculiar white, semitransparent, waxy appearance, which is so characteristic of these cases. I think it very probable, too, that there was either an excess of sub-arachnoid fluid, or, what is more likely, slight effusion into the ventricles of the brain: for during the first two or three days after he came in, he was very drowsy and lethargic; and, no doubt, the impure state of his blood contributed much to the lethargic condition. His urine was deficient in quantity, smoky in colour, and it showed a great abundance of albumen on the application of the appropriate tests.

Now let us see in what way this case presented those three conditions, the concurrence of which I have just now stated to be necessary to the production of dropsy.

1. The *skin* was dry, rough, and harsh, and there would seem to be an irritated state of it; but this irritation was not extreme; and I think it would have been better if it had been made more so, as it would have enabled the patient to have thrown off more completely by cutaneous elimination the poison of the malady; for it is a known fact that the dropsy occurs in the mildest forms of scarlet fever, in which there had been little or no eruption; but in those cases in which eruption had come out well, and that desquamation is consequently excessive, no trace of it is to be found.

2. The *kidney* was in a very analogous condition to that of the skin; as there has been a desquamative state of the one, so there has been of the other. When we examine the kidney in these cases (and now, thanks to recent researches, of which those of our friend Dr. Geo. Johnson are among the first, both in time and importance, we have a very exact knowledge of its precise anatomical condition in this form of disease), we find it filled with epithelium, and the whole organ enlarged, and in a state of hyperæmia, as far as this great filling of the uriniferous tubes will permit it to be so. There is not only a large quantity of blood in the organ, from the undue attraction of blood to it by reason of its irritated state, but the blood is irregularly distributed in it. The principal anatomical change in the kidneys results from the development of an undue quantity of epithelium in the uriniferous tubes.

The accumulation of epithelium creates an unnatural distension of the tubes, and the small vessels which ramify upon their walls (forming the portal vessels of the kidney) become compressed. Thus the blood is thrown back on the Malpighian bodies, so that the vascular system becomes irregularly supplied, the Malpighian bodies being very full of blood, but the portal system almost empty. Hence but a small portion of urine is secreted, and that containing serum or blood in large quantity: and this imperfect elimination of water is negatively a further cause for the accumulation of epithelia in the uriniferous tubes, as there is less fluid to wash them out.

The congestion of the Malpighian bodies, when it exists to a certain amount, produces effusion of liquor sanguinis into the tubes; but when it exists to a still greater degree, it leads to rupture of the Malpighian vessels, and the escape of *all* the constituents of the blood: in the former case, the urine is merely albuminous; in the latter, in addition to the albumen, we find in it an abundance of blood-corpuscles and fibrinous casts of the tubes, from the fibrine having moulded itself to their walls in the process of coagulation. This is the state of the kidney, and accompanying it is always that peculiar smoky condition of the urine, very characteristic, into a particular description of which it is unnecessary for me at present to enter.

3. The *blood*. What is the condition of the blood? Whoever looks at our patient, and, indeed, at all patients labouring under this form of dropsy, will see at once that there is every indication of a great want of red particles, and a too watery condition of the blood. I know of no good analysis of the blood in the scarlet-fever dropsy, but I would venture to say that there must be a deficiency of albumen, and that the specific gravity of the serum must be below the natural standard: sometimes considerably so. I have not ascertained it in the present instance, from my unwillingness to impoverish my patient's blood, already too poor; but I feel assured that any future case that might ad-

mit of the examination would confirm my supposition, and that the blood would be found deficient in its solid elements generally. Now this is a state that must be highly favorable to the filtration of the liquor sanguinis through the walls of the capillaries, under particular circumstances.

These facts, I think, will lead us to form something like a theory of the foundation of this dropsy. What we have got to explain is this, that to-day a child may be going on very well, and to all appearance in a favorable convalescence, and in a few days afterwards may rapidly become universally oedematous, with effusions to a greater or less extent in the various serous cavities, accompanied by scanty urine, smoky in colour, and albuminous; in fact, exhibiting all the appearances I have already described. I think if you look to the three conditions which I just now mentioned, you will get it satisfactorily explained.

First. From some cause not easy of detection, but in some instances undoubtedly from exposure to cold, there is an arrest to the proper elimination of the scarlet-fever poison through the skin, its usual emunctory, and the ordinary excretions of water through that organ is checked: not obtaining complete egress there, the poison finds for itself another channel, and is thrown on the kidneys. Its passage through those organs produces great irritation in them, the effect of which is, that water is imperfectly eliminated, and thus the escape of water from the blood is prevented through its two ordinary channels—namely, the skin, which is *an* emunctory of it, and the kidney, which is *the* emunctory of it *par excellence*.

Second. As a direct consequence of this obstruction to the escape of water through its two principal channels, a watery condition of the blood is induced. It is calculated that we get rid of three pints of water in a day, by the secretion of the kidneys, and by cutaneous perspiration, and certainly this is not too high an estimate. Now this water must be got rid of in some way or other, and when its usual channel of escape is cut off, it is very apt to permeate the parietes of the bloodvessels. But why do we find it particularly in the areolar tissue, and why in that of the skin more than any other part? It finds its way into the areolar tissue of the skin, in consequence of the determination of blood to the skin due to its state of irritation, for in order to reach the skin the blood must pass through the subcutaneous areolar tissue. It would be wrong, however, to suppose that the effusion was confined to the neighbourhood of the skin; we find it in the areolar tissue of the lungs, and in the serous cavities: in the former, because of the necessarily large flow of blood to the lungs; and in the latter situation, because of the great tenuity of the tissue of the serous membrane, which affords but little obstacle to the escape of the serous part of the blood.

Third. All this is favoured by the impoverished state of the blood. If the scarlet-fever poison is not eliminated, it interferes with the proper nutrient changes which take place in the blood; and this is shown by the imperfect development of red particles. I think that the poison of scarlet fever interferes with their formation in the same way as that of rheumatism does, and indeed other poisons likewise, inorganic as well as animal—as for instance, lead. This impoverished state of the blood undoubtedly interferes with the proper rate and vigour of the capillary circulation. That attractive force which I have already referred to, the capillary force, or *vis a fronte*, cannot be so vigorous when the blood is deficient in all, or nearly all its solid ingredients, as when the fluid is healthy. It is not improbable, likewise, that there may be some other special chemical condition of the blood. Magendie and Poisseuille found that the introduction of alkalies into the blood occasioned a great retardation of the circulation through the capillaries, and consequent dropsical effusion: what the precise condition of the blood is in scarlatina has yet to be shown: at present we can only conjecture that some such abnormal state of it does exist: that is to say that, besides containing too much water, and too little colouring matter, it contains some special chemical agent likewise, which interferes with its proper vital changes.

Such is my theory of the dropsy after scarlet fever. What may be the ultimate fate of it upon a larger induction of facts, I will not attempt to predict.

I offer it to you, now, as a convenient mode of connecting the various phenomena which accompany, and doubtless tend to the production of, the dropsy.

Treatment.—As you have in this disease a more or less irritated state both of the skin and kidneys, the first and chief indication for treatment is to allay that irritation. Now for this purpose I know no more valuable or efficient remedy than the warm bath: indeed, I would pronounce it *the* most valuable single remedy for this state of dropsy. You must use it frequently, bearing in mind, however, that both the disease and the remedy have a depressing tendency. You will be careful, therefore, not to use it oftener than your patients' strength will bear: most patients can bear it once a day for a few days: sometimes, however, you may give it twice in a day; but often you must not venture even upon the daily use of it. In cases where you apprehend the access of dropsy, you may often succeed in arresting it by the daily use of the warm bath during the period when desquamation is or ought to be taking place. The next most important remedy is purgatives, which by their action on the intestinal mucous membrane open a new emunctory for the elimination of water, and with it any poisonous ingredient dissolved or suspended in it. Jalap, calomel, scammony, the compound powder of jalap, singly, or variously combined, are very admissible for this purpose, or the saline purgatives. With these you may give some of the milder diuretics, which do not excite any direct irritative action on the kidneys, such as liquor ammon. acetatis, or bitartrate of potass. The last, in small doses, you will find extremely valuable. If, after a treatment of this kind pursued for several days, you find that the kidneys refuse to act properly, and that the urine is very smoky, take blood from the loins by leeches or cupping, to relieve the local congestion. I do not recommend you to do this early, during the more irritative stage of the renal affection, as you will find bloodletting then much less efficacious in diminishing congestion than at a later period. Take but a little at a time, and rather repeat the bloodletting in small quantities, than take much at once. It very rarely happens, indeed, that patients labouring under this disease can spare much blood.

In pursuing this treatment, I pray of you to regard it not as antiphlogistic, but calmative and eliminatory, soothing cutaneous and renal irritation, eliminating water by the bowels, the kidneys, and the skin. For whilst using these remedies you must always support your patient by nourishing food, and often you must stimulate: frequently you will find the most signal benefit derived from giving port wine. Do not, when you feel that your patient needs it, be deterred from giving stimulants by the fear of exciting fresh irritation of the kidneys. Your best guide as to the propriety of continuing stimulants or any other food, is the facility with which your patient *digests* them. If they create flatulence, gastric distress, pain, or any other symptom referable to the stomach, you must diminish the quantity or stop the supplies.

Sometimes in the course of this disease you have symptoms of head affection. These arise either from dropsy of the ventricles, or from poisoning of the brain by retained urea. Free counter-irritation immediately and extensively applied to the nucha or the scalp, is the best remedy: and generally speaking, bleeding, local or general, is inadmissible. Sinapisms, succeeded immediately by blisters, are most valuable remedies in these head affections.

The boy whose case has formed the text of this lecture was treated much in the way I have described. He came in on the 15th October, and I ordered him a daily warm bath and mild purgatives. The next day I made a slight alteration by giving him a more drastic purge, in the shape of a dose of pulv. jalap comp. which carried off an abundance of watery stools. The next day, 18th, he passed a pint and a half of urine, and the dropsy had greatly diminished. The next day, he passed two quarts of urine; and from this time it is wonderful with what degree of rapidity the kidneys continued to secrete; this great diuresis is frequently to be noticed in this form of dropsy. On the 19th he passed 2½ quarts. Under these circumstances, it is not surprising that the dropsy almost entirely diminished. Still there remained a little smokiness of colour, indicating the escape of blood, and with the view of checking this, and remedying his anæmia, I have given him a little citrate of iron, under which treatment he has been rapidly improving, and is now nearly well.

This case affords a good example of the termination of this malady, as well as of its course. Dropsy after scarlet fever is by no means a disease of fatal tendency, more especially when the preceding fever has been treated mildly, and with due regard to preserving the powers of the patient. Furthermore, I should not prognosticate any peculiar liability of this or other patients similarly affected, to renal disease hereafter. I know that some deservedly high authorities think otherwise; but it seems to me we need much more proof than has yet been offered, before we shall be justified in affirming that the state of kidney in scarlet dropsy predisposes either to the large fatty kidney of Bright, or to the chronic nephritic disease.

ART. 3.—*On Dropsy after Scarlatina.* By J. W. TRIPE, Esq.

(*Medical Times*, October 21, 1848.)

[In the following extract from an interesting series of papers, Mr. Tripe acknowledges three varieties of scarlatinous dropsy. 1. That in which the urine is not albuminous. 2. That in which it is albuminous, with subacute nephritis. 3. That in which the urine is albuminous, with acute nephritis; or, as he otherwise states, dropsy from debility, and dropsy from renal derangement or disorganization. Of these forms he proceeds to speak more in detail.]

The urine in one variety is non-albuminous, while in the others it is not only albuminous, but contains an increased quantity of epithelium, and in many cases blood-, mucus-, and pus-corpuscles, with cylinders. In the former variety recovery speedily occurs, whilst in the latter death frequently results either from the present attack, or subsequently from degeneration of the kidneys. In the simple form of dropsy the urine is occasionally albuminous, but usually it is not so, and contains an unusual quantity of lithates; in other respects it is commonly healthy. The presence of albumen is by no means indicative of disease of the kidney, but of congestion or irritation only. The treatment is simple, and consists chiefly of the free exhibition of purgatives, with warm baths, and the exhibition of tincture of the sesquichloride of iron.

The next variety depends on a more serious cause—viz., derangement of the circulation and acute irritation, or subacute inflammation of the secretory tubules of the kidney. The first symptoms are slight, such as trifling fever, loss of appetite, lassitude, and slight aching of the loins. After a few days the eyelids puff up, the face becomes œdematous, and next the extremities, surface, &c. The urine if not previously albuminous becomes so, and scanty, and of a higher specific gravity. A number of abnormal cells are also contained in it, mucus- and occasionally blood-corpuscles, and broken-up epithelial cells. Another kind of large cell, with indistinct nuclei, is also met with; there are also a few of the cylinders described by Simon. The salts of the urine are increased, especially the lithates, while the urea is diminished. The treatment consists in avoiding diuretics, in the use of antimonials and purgatives, and in restoring the functions of the skin as speedily as possible.

The most important, and fortunately the most rare, form of acute albuminous dropsy, is characterized by somewhat similar symptoms; indeed, the one form of disease graduates so insensibly into the other, that in some cases it is impossible to say to which form a case belongs. In well-marked instances the early symptoms are increased heat of skin, thirst, furred tongue, and quick pulse, great diminution or almost total suppression of urine, and great diminution of urea. After the febrile symptoms have existed for a day or two, the eyelids become œdematous, and the extremities and the serous cavities become in their turn involved in the effusion. The cavity which becomes dropsical varies in different epidemics. Occasionally the membranes lining their cavities are attacked with inflammatory disease, which is apt to creep on without being noticed.

If we examine the urine we shall invariably find it albuminous, with an unusual quantity of lithates and of the cells previously described. As the disease advances, the urine becomes still more diminished in quantity or totally suppressed, and the patient dies poisoned by urea. If the course of the disease is favourable, the quantity of urine becomes increased, its colour is lighter, its specific gravity diminished, and the quantity of cells and albumen reduced.

With these the other symptoms improve; the fever, thirst, and dropsy diminish; the colour returns to the face, and the patient appears to be perfectly restored.

The treatment of this variety of inflammatory dropsy should be, at first, antiphlogistic, consisting in the exhibition of antimony and opium, local depletion, milk diet, and especially in the use of hydragogue purgatives. When the inflammatory stage is somewhat abated, the use of tincture of the sesquichloride of iron is eminently useful, as the amount of blood and albumen in the urine diminish under its use, and frequently subside altogether.

Diuretics are injurious, as they increase the diseased action already existing. If we examine the urine of any patient to whom we have been giving diuretics for some time, we shall find that, in proportion to the quantity of urine, the epithelial cells are very much increased. The Goodsirs and others have proved beyond a doubt, that all the secretions (as urine, bile) are formed by the agency of the cells which cover the membranous surfaces of the follicles, and of the ramifications of the excretory ducts of the secreting organs. These cells grow by abstracting from the blood certain particles which they appropriate to themselves. In the liver and kidney these substances are complementary to each other; that is to say, the substances abstracted by the two together make up the composition of the constituents of the blood. We thus see that during their nutrition these cells abstract from the blood certain substances, which, if allowed to remain, would prove injurious to the system; the azotized matters being removed by the renal, whilst the non-azotized are removed by the hepatic cells.

On arriving at their full growth, these cells burst, and pour their contents into the tubes or follicles which they line; at the same time they are themselves cast off, and replaced by the subjacent layer of younger cells. We thus see that secretion resolves itself into nutrition or growth. Why one set of cells should have the power to select from the blood certain substances only, we cannot tell, but it is undeniably true. We certainly can distinguish between one set of cells and another; thus the hepatic can be distinguished from the renal, &c.

Anything, therefore, which acts on the cells so as to cause increased action, must cause increased nutrition and an increased supply of blood to the organ. The cells must, therefore, under these circumstances, arrive at the full period of their existence at an earlier period than they otherwise would do, and must necessarily be cast off sooner than normal. It is, therefore, very evident that, if, as I believe, the virus of scarlatina produces this effect on the cells of the kidney, and thus induces the changes in the urine already described, any means or medicine which aggravates this already increased action must necessarily prove highly injurious. I consider diuretics to be as irrational a mode of treating this variety of dropsy, as attempting to put out a fire by adding to the quantity of fuel.

ART. 4.—*Treatment of Dropsy after Scarlet Fever.*

By Dr. SCOTT ALISON.

(*London Journal of Medicine*, March 1849.)

[After stating that his present experience of scarlet fever leads him to the conclusion, that they will not bear depletory measures with the same safety as cases which occur in the provinces, Dr. Alison goes on to say:—

For those cases of general dropsy in which the powers of life are considerable, in which the circulation is excited, and the kidneys are obviously congested, the perspiration of the skin is to be early secured, the bowels are to be purged, and blood is to be taken from the loins by cupping. The value of free evacuations from the alimentary canal was illustrated in a case in which severe vomiting and purging occurred, and in which, though the quantity of urine did not increase, the anasarca visibly declined.

When the disease of the kidney remains obstinate, and the strength will permit, a seton in the loins will form a most useful drain. Permanent fomentation of the loins with hot water will prove highly useful.

The examples of the disease which are associated with defective general power, whether from original defect of constitution, or the exhaustion of the

eruptive disease, demand supporting measures. While the secretions are encouraged it will be necessary to give wine, vegetable tonics, and iron. Of the latter, the potassio-tartrate and the iodide are the best preparations. The employment of diuretics requires caution; the more stimulating of these being calculated, in active congestion of the kidney, to do much harm. When the renal affection has somewhat subsided, the author has found advantage from the use of spirits of nitre, iodide of potassium, and the alkaline diuretics.

Scarification of the integument, when the cellular tissue is much infiltrated, will often give relief. The act of sloughing will be rendered trifling by the application of a mild ointment to the neighbouring integument. The diet should be carefully regulated. All unnecessary consumption of azotized food should be avoided.

ART. 5.—*On Inunction with Lard in Scarlatina.*—[The following plan of treatment in scarlatina might meet with ridicule had it not the sanction of Mauthner, the founder of the children's hospital, at Vienna. This physician observes:—]

I owe to M. Schneeman an excellent method of treating scarlatina, and one from which I have derived great success: this is, inunction of the whole surface with lard. These unctions have never done harm (more than can be said of cold affusions); they may be employed in all classes of society; and, in fact, I am convinced that desquamation takes place more easily, and that there is less risk of consecutive anasarca, even though children are exposed to the air as early as the third day. The process also appears to prevent the spread of the disease in the family, if it be used as a prophylactic. I would, without hesitation, treat my own children thus, if they were attacked by this disease of which I entertain so great a horror, while I should not have the courage to dash cold water upon them.

Revue Médico-Chirug., Jan. 1849.

ART. 6.—*Employment of Cupping-glasses to the Spine, in Intermittent Fever.*—M. Gondret submits the following method, which he states has never failed to cure intermittent fever: Apply eight or ten middle-sized cupping-glasses on each side the spinal column, from the neck downwards, and let them remain on for about thirty or forty minutes, without scarification, or, in other words, dry cupping. The time for applying the cups is the beginning of the cold stage, or, if it is possible, a short time before its accession, say a quarter of an hour; and this not only prevents the attack, but, at the same time, the hot fit and the sweating. In most cases, one application of the cups is sufficient to cure entirely an intermittent fever; however, in cases of long standing, it only modifies the time of the attack, and requires, for a complete cure, to be repeated three or four times.

In my own private practice, for these last twenty-seven years, I have never once met with a case of intermittent fever which has not given way to this simple treatment. The *vacuum* produced along the vertebral column, operates, I think, as a salutary derivative, which is easily understood, by considering the different anastomoses which exist between the vertebral arteries and those of the cerebral, such as the vertebral arteries, the circle of Willis, the bronchial, the cardiac, the œsophagian, &c. I cannot affirm that this mode of treatment would succeed in your climate: at all events, the experiment can easily be made.

As to the seat of the disease, it is impossible to affirm, with absolute certainty. However, from my own observation, I am inclined to think that it is sometimes located in one organ, sometimes in another, and the treatment is based on that belief; thus, when there are headache, giddiness, heat, and heaviness of the head, I apply cups to the back of the neck, and sometimes take away one ounce or an ounce and a half of blood, which immediately relieves; if there is cough, difficulty of breathing, palpitation, &c., I apply them between the shoulders; and draw two or three ounces of blood, and so on. By following this plan, I always find the symptoms disappear in a short time.

Encyclograp. Médicale.

SECT. II.—DISEASES OF THE NERVOUS SYSTEM.

ART. 7.—*On the Neck as a Medical Region, and on Paroxysmal Paralysis.*
By DR. MARSHALL HALL.

(*Lancet*, Feb. 17, 1849.)

[In a former volume (VII. p. 210) we have laid before our readers a theory of epilepsy advanced by this author, viz. that the first link in the chain of causation is compression of the veins of the neck by irregular action of the platysma and other cervical muscles. This idea is further developed in the following remarks, which from the author's peculiar style, sets all attempts at condensation at defiance, and which we are, therefore, compelled to give in detail.]

I now proceed to consider this subject more especially in regard to certain characteristic affections of the nervous system, which I believe to be at once overlooked, and yet of great importance and prevalence.

We have all heard much of the *tendency* of blood to the head, a condition of the circulation which, in reality, scarcely exists; and we have scarcely heard of *impeded return* of blood from the head, an event of most frequent, nay, of daily occurrence. In reality, I believe the latter affection has been mistaken for the former.

There is no principle in physiology which could induce or explain tendency of blood to the head. M. Poisseuille has irrefragably shown that the power of the heart is equal in all the bloodvessels of equal size, and of equal distance from the heart. Nothing can influence this force except position, exercise, or muscular effort, or hypertrophy of the heart itself, which may augment the rapidity and force of the circulation; but then this augmentation of the rapidity of the circulation is general and diffused, like its original force, equally in all the vessels of equal size and form, and at equal distances from the heart.

Widely different is the course of impeded flow of the blood along the veins. An individual vein may be compressed and the flow of blood along its course, and its return from the organ in which it originates, is impeded; the capillary vessels, or, as I would term them, the methæmatus channels, are gorged and congested, and the arteries become rigid and throb.

This state of things is conceivable. But this is not all. It is of the most frequent and daily occurrence. And here again I beg to adduce a view of the subject which I believe to have been overlooked. *It is a newly discovered principle in pathology.*

We have only to watch the condition of the platysma-myoides, and of the external jugular vein, to observe that the contraction of that muscle is frequently spasmodic, and the dilatation of the vein, and of the veins which lead to it, a constant effect.

Spasmodic action of the muscle, then, may tend to the obstruction of the course of a vein, and to consequent congestion of its roots, and of the blood-channels, to which it serves as a drain.

I must be allowed to repeat, that this action of the muscles must be abnormal and spasmodic, for, as I have said, normal muscular action does not produce this effect. All the muscles of the neck, for example, may be summoned into normal action of the most energetic kind, as in carrying a heavy load on the head, without producing this effect. But let this action be abnormal, irregular, spasmodic, violent therefore, and without equipoise, and a very different result is observed; the subjacent vein may be compressed, and all the consequences of such compression may occur—viz: distension of its roots, and of the blood-channels, placed intermediately between them and the corresponding branches of arteries, which latter become rigid and throbbing.

Another pathological principle must be adduced in this place. Let any one observe the eyes, the countenance, the tongue, the neck, the hands, &c., in spasmodic disease. They will be satisfied that there is no individual muscle, no series of muscles, which may not be excited into abnormal and violent, be-

cause spasmodic action. There is consequently no vein within the influence of such action which may not be compressed. As a further consequence there is no organ which delivers up its blood to such veins, which may not be the seat of congestion, and, if I may so express myself, of the apoplectic state.

Now, in this region of the neck there are *four* veins of vast importance in this point of view; these are—

1. *The External* }
2. *The Internal* } *Jugulars*;
3. *The Vertebral*;
4. *The Subclavian*.

If the external jugular be compressed by the action of the platysma-myoides: the internal jugular, by that of the cleido-mastoid and the omo-hyoid muscles: the vertebral and the subclavian veins may be compressed, and the course of the blood in them impeded or arrested, by the spasmodic action of the scaleni. the subclavius, the pectoralis minor, &c.

To show the influence of abnormal contraction of the muscles on the sub-jacent or adjacent veins, I may mention the fact, that even the pulse of the artery at the wrist may be stopped by violent voluntary action of the pectorales minor, and other muscles similarly seated.

The compression of each of these veins induces its own peculiar effect.

The external jugular is frequently compressed by the action of the platysma-myoides, the effect of emotion; and blushing is the consequence; in other cases, the superficial veins of the neck, face, forehead, temples, &c., are seen to become tumid, the face to flush, and the temporal arteries to throb.

The internal jugular may be compressed without any obvious external sign. its roots being deeply seated. But the brain suffers, and there may be one or more of the varied symptoms of *cerebral* epilepsy—that is, momentary loss of consciousness, affection of the vision, or ringing in the ears.

If the vertebral vein be obstructed, there are some of the symptoms of affection of the medulla oblongata, or of *spinal* epilepsy—that is, laryngismus, strabismus, odaxismus, twisted neck, &c.

Lastly, when the subclavian is compressed, the hand of the patient becomes livid and cold. Such an event I have just witnessed, and, indeed, watched, in a little patient, conjointly with Mr. Hodding. The lividity and its accompanying coldness alternated with return of the natural colour and warmth from time to time, as the action of the subclavian (as I suppose) varied.

Some action of this kind also doubtless affects the mamma and the nipple, under the influence of what is called “the draught” and of the erectile excitement of the nipple on the pressure of the lips of the infant.

Other glands may be affected in a similar manner, excited, or arrested, by similar means, especially the salivary.

The subject of impeded venous circulation is not exhausted. It is physiological as well as pathological, though most frequently the latter, and always traceable to emotion, or excitants of reflex action, and the *Spinal System*. Once more a new field of inquiry opens upon us.

It must be here observed, that compression of the subclavian vein may effect, not the brachial vein only, but, in a secondary manner, the vertebral and the jugulars; and it is to be particularly borne in mind, that the veins of this region are not affected *singly* in the manner I have described, but variously together.

I repeat that, in spite of anything which I may have written, or may write, respecting the action of individual muscles on individual veins in the neck, *it is not by any regular and physiological convulsion, but by irregular abnormal and violent grouping and contraction of the muscles of the neck, that compression of the veins of this region become variously affected with its consequences.*

I have now to evolve a fourth pathological principle in relation to this subject. The actions of the muscles to which I have adverted being one and all spasmodic or convulsive, the effects of this on the veins, and more remotely on the cerebrum, or on the medulla oblongata, are—*paroxysmal*. And this remark leads me to mention, in the most emphatic manner, that not only coma in the apoplectic state, but hemiplegia and partial paralysis, and mania, may, as well

as epilepsy itself, be paroxysmal, be dependent on intra-vascular congestion, and exist entirely independently of extra-vascular, or other physical change. They may be evanescent, therefore, and so, far, very far, less grave than other forms of these diseases.

I feel that this subject, in all its relations to its causes, its rationale, its prognosis, is of vast importance in medical science and art.

Emotion and causes of reflex action may induce contraction of the muscles of the neck—*trachelismus*. This may compress the veins of the neck, and induce a condition which may be designated *phlebismus*. This leads to congestion of the intermediate blood-channels and the apoplectic state; and this, primarily or secondarily, to comatose, to paralytic, to maniacal, to epileptic affections, all having the one characteristic feature—that of paroxysmal and evanescent forms. I imagine that this view of the subject is equally original, important, and extensive. The events of each day's practice prove that these paroxysmal forms of diseases of the nervous system, not formerly viewed as paroxysmal, are extremely frequent. In fact, I believe a new ray of light is being shed on apoplexy, and even on paralysis and on mania, in their varied forms—in a word, on a *whole Class of paroxysmal diseases*.

I would here specially remark, or repeat, that impeded flow of blood along the external jugular is seen, first, in the fulness of this vessel itself; second, in that of the intermediate blood-channels; and third, in that of the temporal artery; and that the effects of compression of the subclavian are seen in the lividity and coldness of the hands and fingers; but the *arrière* connections of the internal jugular and of the vertebral veins are more deeply seated, and impeded circulation in these vessels is manifested chiefly by *symptoms*—the symptoms of cerebral and of spinal epilepsy respectively.

I may now ask an important question—What are the exciting causes of *trachelismus* and its phenomena? And I answer, first, emotion; and second, the excitants of reflex action—new subjects of investigation and study in the science and art of medicine.

I here conclude this little sketch, but not without one or two final practical remarks.

There is no degree or form of apoplexy or mania which may not be paroxysmal, and dependent on *trachelismus*. This is also true of paralysis. One patient suddenly and completely lost the power of articulation at one time, and of writing at another, to recover them after an interval. Another patient lost the power of articulation; a second, the use of the arm, and a third, the use of both arm and leg, yet only for a time.

In most of these cases, but not in all, the paralysis is not only paroxysmal, but more or less combined with spasm—that is, they are not cerebral only, but spinal.

The differences between these paroxysmal forms and the permanent forms of this class of disease, will now be perceived to be immense. They are especially more curable.

The objects forming this class are far more intimately allied than has been supposed; apoplexy, paralysis, mania, have alike resulted from an epileptic seizure. Minor degrees of the former have occurred from milder degrees of the latter; and even in the entire absence of epileptic symptoms. But to the physiologist there is a bond of union between them all. All may equally, and conjointly or separately, arise from emotion or the excitants of reflex action; from the occasional effects of these inducing contraction of the muscles of the neck, of this on the veins, of this again on the capillary circulation, of this on the condition of the cerebrum, and of the medulla oblongata—whence the Class of paroxysmal, cerebral, and spinal diseases.

[The subject of the preceding remarks is continued in a succeeding number of the same journal. After alluding to the terminology of certain medical words, and proposing that as the ending in *-itis* signifies an inflammatory disease, so the ending in *-ismus* might be employed to designate diseases not inflammatory, the author thus proceeds:]—

The term *trachelismus* may be used to express that paroxysmal affection of the neck, in which, the muscles acting inordinately, the neck is affected with

opisthotonos, or becomes twisted, or otherwise contorted; whilst the subjacent veins are subjected to compression, and the blood flowing along them is arrested or impeded in its course—a condition which may be aptly termed *phlebeismus*. The term *phlebeismus* may be regarded as generic, and each kind of this affection may have its appropriate and specific designation; and whilst the term *sphagismus* denotes compression of the internal jugular vein, that of *rhachismus* may be used to denote that scarcely less important event of interrupted circulation in the rachidian or vertebral vein. The former will be henceforth associated with paroxysmal apoplexy, paralysis, mania, &c.; the latter with the epileptic seizure, and other convulsive and spasmodic affections, the cerebrum and the medulla oblongata being affected respectively.

Trachelismus and phlebeismus constitute one of the most important events in pathology, and especially in the pathology of the nervous system. Induced by mental emotion and excitants of reflex action, they are, in their turn, the fruitful source of congestion in the cerebrum, or in the medulla oblongata, and of cerebral and spinal paroxysmal diseases.

There is no order, no degree, in which the muscles of the neck may not act, and in which the veins of the neck may not be compressed; there is no form of cerebral and spinal paroxysmal derangement—from a momentary oblivium or delirium to coma or mania—from the slightest spasmodic or paralytic affection to epilepsy or hemiplegia—which may not take place as consequences of that compression. Having the limits of these maladies clearly placed before our eyes, we may readily imagine or comprehend the intermediate forms, mild and dire, and we are prepared for their immediate observation.

To trace these maladies from their faintest to their darkest shade—to trace them back to their causes, moral and physical, and onwards, to their dire effects on the intellect and on the limbs, of excitement or of stupor, of spasm or of paralysis, through trachelismus and phlebeismus—is to engage in the investigation of one of the most novel, varied, and practically useful subjects in the domains of pathology. From mere sick-headache to paroxysmal apoplexy or epilepsy, this *Class* of diseases extends, occupying with its varied forms the lengthened interval.

A remarkable confirmation of these views is afforded by the phenomena presented by *Strangulation*. The moment the cord is tightened round the neck, *apoplectic* insensibility takes place; as a subsequent phenomenon, we have *epilepsy*—the tongue is protruded and bitten in some cases, and there are erection and seminal emission in others: *asphyxia* terminates the dreadful series of events. It will be plain, from what has been said, that we cannot concur with the eminent physician of Edinburgh, that “strangulation, when the neck is not dislocated, appears to be simply apoplexy.”

In slighter degrees of strangulation there are slighter effects, but amongst these there is always insensibility. In one case, a youth, on the eve of an execution, impressed with the terror of the coming scene, wished to experience the sensation induced by strangulation: and having so arranged a cord on a horizontal pole (the upper bar of a style crossing a village foot-path) that hung down loosely, he laid his neck gently upon it. Insensibility was produced, and the poor youth was found dead, having committed an undesigned suicide. The coroner for Middlesex has had frequent opportunities of observing the real suicide strangled in such a position that the slightest pain or irresolution might have led him to rescue himself had consciousness remained.

To these observations I may add the following interesting extract from Abercrombie, to show at once the importance and the obscurity of the subject previous to these inquiries. After having spoken of the effects of strangulation, and of the “numerous examples in which persons fall down suddenly in a state of perfect apoplexy, and very speedily recover under the appropriate treatment, without retaining a trace of so formidable a malady,” he adds—

“The apoplectic attack, as it occurs in such examples as these, must be supposed to depend upon a cause which acts simply upon the circulating system of the brain, producing there a derangement which takes place speedily, and is often almost as speedily removed. *What the precise nature of that derangement may be, is a point of the utmost difficulty to determine.*” Abercrombie’s philoso-

phic mind felt, in all its force, the want of some such principle as it is the object of these observations to set forth.

I may now repeat that the phenomenon of *blushing* is familiar to every one. Obviously the effect of emotion, I have suggested the contraction of the platysma-myoides on the external jugular vein as the second link of the chain of causes and effects, and the impeded return of blood along this latter, as the third.

Let us imagine a similar condition of the *internal* jugular; there will be a state of *blushing*, in other words, of congestion of the cerebrum, with oblivium, stupor, or even apoplexy. Or let the vertebral vein be so affected, and a similar condition of *blushing* of the medulla oblongata will accrue, with varied spasmodic affections, such as strabismus, laryngismus, or even epilepsy. I have actually seen a state of recurrent *venous blushing* of the hand of an infant affected with convulsion.

If these veins be so affected, not singly but conjointly, it is obvious that a more complicated result will take place; and thus venous lividity of the face and hands is apt to be conjoined with the apoplectic and epileptic states, and these with each other.

If one part, or hemisphere, of the cerebrum be more affected than the other, we may witness a form of paralysis, which, as it usually ceases with the congestion, I have designated *paroxysmal*.

Or another *degree* or *locality* of the *blushing* of the cerebrum may lead to a paroxysm of mania.

A momentary unconsciousness—cerebral epilepsy—occurs from modes of strangulation such as I have described as constituting trachelismus. I will only *allude* to the peculiar effect said to be produced on the sexual system—spinal epilepsy—by slighter degrees of strangulation.

A slight degree of trachelismus leads to the feeling of “strangulation,” or of “constriction,” or of “tightness,” or “pressure,” or “fulness,” about the neck; for these and other phrases are used by patients.

In inquiring into these feelings, we must avoid leading questions, and make the patient express himself. “Do you experience anything unusual about this part?” (referring to the front of the neck generally) is the only question I ever allow myself to ask. The reply to this is frequently of the most unexpected and interesting kind.

The subjects of trachelismus and phlebismus bring under our review the cases of paroxysmal apoplexy, paralysis, mania, and epilepsy, in all their shadowy and terrific forms. In their causes, their nature, their effects, and their treatment, they present to the physician a field of investigation, equally uncultivated hitherto, and prolific in results.

A chief cause is *emotion*. Such was the cause of the epileptic attack experienced by Henry Kirke White; and in general, I believe the mental agitation, the hopes and fears, attendant on the examinations for honours at Cambridge, far more dangerous than the intellectual efforts previously made; and I would strongly and loudly urge on the Senate of that famed University (and others) some other, and better, and more continuous mode of judging, than the *one* fearful and dangerous trial now adopted.

A volume—and an instructive volume—might be written on the dire effects of the emotions and passions, in their varied kinds, in inducing trachelismus and phlebismus, and their results. Next should be investigated the effects of sexual excesses. And lastly, the effects of the excitants of spinal action, reflex and direct, should be traced from link to link through the fearful chain.

All these effects must be carefully distinguished from those of inflammation and of organic lesion, and the task of an accurate *Diagnosis* is not an easy one.

In my former paper, I observed, “It may be laid down as a principle, that there is no muscle—no set of muscles—in the neck, which may not become spasmodically contracted, singly or conjointly with others; and that there is no vein in this region which may not, under the influence of such contraction of muscles, become compressed, and the course of whose blood may not consequently become impeded.” “As a further consequence, there is no organ which delivers up its blood to such vein, which may not be the seat of congestion, and, if I may so express myself, of the apoplectic state.” As a still further

consequence, I may now add, that there is no paroxysmal affection of the nervous system, and especially of its *cerebral* and its *spinal* portions, however severe, however apparently slight, which may not result from this series of causes and effects.

This statement may be expanded into the different modes and forms of diseases of the nervous system, in their cerebral and spinal portions. Hence we have stupor, oblivium, cerebral epilepsy, vertigo, headache, delirium, flashes of light, muscæ, flocci, dimness, amaurosis in every degree, tinnitus, and other noises, dullness, deafness; neuralgia and other morbid sensation, paralytic affections: hence we have epilepsy, and every kind, mode, and degree of spasmodic and convulsive affection.

So far the efforts of *trachelismus* are *paroxysmal*; they supervene on emotion or harass of mind, and on excited reflex action, and recede completely. But there is a limit to this complete recession. At length the recession is incomplete. The effects of the congestive state of the veins are more or less permanent, in the form, generally, of slight paralysis. What is the precise condition of the intermediate blood-channels? and of the minute arterial branches and venous roots? Do they yield and dilate, as we sometimes see minute ecchymoses on the face? Is there lesion of their intimate tissue? Is there effusion? Is there ramollissement of the adjacent cerebral or spinal tissue?

In a word, it has been admitted, from time immemorial, that mental agitation and passion, and deranged condition of the stomach, liver, bowels, &c., induce apoplectic attacks. I only attempt, for the first time, I believe, to set forth the *rationale* of this pathological phenomenon.

In doing this I establish a *Class of paroxysmal* diseases of the nervous system, cerebral as well as spinal; apoplectic and paralytic as well as epileptic and convulsive. I endeavour to fix the attention of physicians, and of patients, too, on this, the *curable* stage of these dire maladies, before, from being merely paroxysmal derangement, they pass into permanent lesion of tissue.

This is *living* pathology as contrasted with the results of morbid actions as usually detailed in books, which are *dead*. If we read over the titles of each of the nine *Letters* of M. Lallemand, we find but a list of the capita mortua of the real and living disease. But what actions lead to each of these? This is the one question, with those of the diagnosis and of the treatment, which interests the physician and the patient.

Inflammation and its causes; venous congestion and its causes; certain conditions of the vascular system or its contents—as anæmia, plethora, the effects of alcohol; the tuberculous diathesis, diabetes, albuminuria, a syphilitic taint, &c.; the seat of the disease in the membranes, in the substance of the cerebrum and spinal marrow; the character of the disease, especially as to its acute or chronic form, &c. I mention these circumstances to show how extensive a question that of the diagnosis is.

To return to the subject of trachelismus and of phlebitis, and of the paroxysmal affections of the nervous system, their effects, I must repeat that they exist in *two* stages: the first, that in which none but a functional change has taken place; the second, that in which physical lesion has supervened. The former case is the truly paroxysmal. These two conditions are coincident and commensurate with each other. As lesion supervenes, the symptomatic phenomena become more or less persistent; and here again the phenomena are proportionate to each other. In the severest form of this affection, physical lesion, perhaps rupture, may occur at once. It may be apoplexy or hemiplegia.

It would be interesting to institute a comparative estimate of the importance of inflammation and of the congestive state to which I have adverted, in regard to the nervous system. I believe the latter to be the most frequent cause of disease of the *substance* of the nervous centres, and its effects to be frequently mistaken for those of inflammation, which is the most frequent, but not the sole, cause of affection of the *membranes*, chiefly arachnitis. This statement must be left to future observation for development. The idea is big with conclusions of the deepest interest.

The specific effects of impeded venous circulation, whenever this occurs in external parts, are sure to be *two*;—first, dilatation, or the *varicose* state: and,

second, *effusion of serum*. We may suppose, until further investigation has confirmed or corrected this view, that similar events occur in the nervous centres, leading to irritation or lesion of their structure. Rupture, or softening of their substance, may follow if the proper remedies be neglected.

I now proceed to discuss briefly the subject of the treatment.

The causes—all mental emotion, agitation, passion, must be most carefully avoided; all sources of gastric and intestinal irritation must be removed.

I believe the most specific preventive to be systematic walking exercise, and especially a pedestrian tour.

I am convinced that I have seen the best effects from a light mercurial conjoined with ipecacuan and squill, and an aperient, taken so as gently to affect the mouth and act on *all* the secretions and excretions, the mercurial cachexia being prevented by air and exercise.

The head should be kept cool by a lotion, consisting of one part of alcohol and three of water, the feet guardedly warm and dry.

Sinapisms should be applied to the nape of the neck, extending to behind the ears. Dry cupping, and cupping with simple or crossed incisions, and with the detraction of the appropriate quantity of blood, have proved most useful.

But this is rather the treatment of the permanent effects of congestion. The most important treatment consists in avoiding the exciting causes of trachelismus, and its effects. It is obvious that, if we would save the brain, and save the intellect and limbs, we must deplete the veins!

We may now resume our subject, and observe that what shame does to the face, neck, and breast, through the contraction of the platysma-myoides on the external jugular, other agitations and passions, and excitants of reflex action, effect on the cerebrum or medulla oblongata, or both, by the compression or obstruction of the internal jugular or vertebral. The former is *seen*, the other is *deduced* from the symptoms, consisting of paroxysmal, cerebral, or spinal seizures. If repeated, the cerebral or spinal veins, or the intermediate blood-channels between these and the arteries, become dilated or varicose, or yield an effusion or serum, whence persistent forms of the same diseases. Of these effects, the first should be subdued, the second should be averted, by timeous, that is, prompt and effectual *cupping*.

ART. 8.—*Clinical Lecture on Paralysis of the Portio Dura.*

By R. B. TODD, M. D., F.R.S.

(*Medical Gazette*, Sept. 22, 1848.)

[After narrating a well-marked case of the above form of facial palsy, the lecturer thus proceeds:—]

The leading character of these cases of facial palsy is the inability to close the eyelids, from paralysis of the orbicularis palpebrarum muscle: this is the pathognomonic sign which determines the peculiar nature of the palsy, and distinguishes it from the more serious form of facial palsy which is dependent on disease of the brain, and palsy of the fifth nerve. It is remarkable how seldom the seventh pair of nerves is affected by disease of the brain. I cannot say that I ever saw a single instance of paralysis of the orbicular muscle of the eyelids due distinctly to diseased brain; and I have only seen a few in which the power of the muscle appeared to be enfeebled from that cause. Thus we have a point favourable and consolatory to the patient afflicted with portio dura paralysis; namely, that the affection being seated in that nerve affords a strong probability that he is free from disease of the brain; for diseased brain would give rise to a different form of facial palsy, and very rarely, if ever, causes this.

You have only to examine this patient with care, and you will find that he has almost every sign which indicates that the paralysis has its seat in the portio dura nerve. He cannot close his right eyelids; in making the attempt, however, he seems not to have lost the power altogether, for the upper lid is slightly depressed; yet if you put your finger on the orbicular muscle you do not find the slightest contraction of it. Now, then, is this slight depression of

the upper lid produced? Watch him closely while he shuts the left eye and attempts to do the same with the right, and you will perceive that at the moment the left eye is closed, the right eyeball turns upwards and inwards to such an extent that the cornea is nearly or wholly concealed by the upper lid, and by this upward movement of the ball the upper lid is slightly depressed. The same upward movement of the eyeball takes place on the sound side at the moment of the forcible contraction of the orbicular muscle. It is a very curious instance of an involuntary movement which cannot be controlled, accompanying a forcible action of another kind; and no doubt has reference to the complete protection of the eyeball against all those sources of injury which would occasion the forcible closure of the eyelids.

Sir Charles Bell, to whom we are so much indebted for our improved knowledge of the paralytic affections of the face, dwelt much on this upward movement of the eyeball. He affirmed that it took place in sleep, and that during sleep the eyeball retained this position. I doubt much the correctness of this assertion. I have had many opportunities of satisfying myself that in perfectly tranquil sleep the eyeball is directed forwards, and seems suspended in the orbit, being equipoised among its muscles. Close the eyelids slowly and without force, and the eyeball remains quiescent,—contract the orbicular muscle forcibly, instantly the eyeball turns upwards and inwards. When the orbicular muscle is made to contract strongly as a reflex action, as when you try to push any object into the eye, the upward movement takes place. But in ordinary winking you have none of it. This movement of the eyeball, then, accompanies only forced contraction of the orbicular muscle of the eyeball.

If you will take the pains to watch persons sleeping, whenever you have the opportunity, you will find that in *sound* and *tranquil* sleep there is no indication of active contraction of the orbicular muscle: there are no wrinkles of the eyelid, and no depression of the brow, as when that muscle is in strong contraction;—if, with the greatest care and gentleness, you raise the upper lid, you will find the eyeball directed forwards, maintained in this position by the equilibrium of its muscles. Should your attempt to raise the lid give rise to a reflex action, you will encounter a distinct resistance from the contraction of the orbicular muscle, and the eyeball will be turned upwards and inwards, more or less forcibly in proportion to the force of the reflex action. I think, therefore, we are justified in asserting, that in sound sleep the position of the eyeball is one of quiescence, that it is maintained in that position by the passive contraction of all its muscles, and that the eyelids are kept closed by the passive contraction of their orbicular muscle, and that there is no effort or influence of the nervous system directed upon any of these muscles. It is only when sleep is disturbed, when the mind is more or less active, as in dreaming, that you find active contraction of the orbicular muscle of the eyelid.

Our patient is unable to frown on the right side, while he does so distinctly on the left; neither can he move his scalp on the right side: the corrugator supercilii, and the frontal portion of the occipito-frontalis muscles, are paralyzed—and, hence, these movements cannot be effected. The levatores alæ nasi, and the zygomatic muscles, are likewise paralyzed on the right side, and, therefore, the right nostril is motionless, and the angle of the mouth hangs on that side. The orbicularis oris muscle is paralyzed as to its right half: the patient is consequently unable to purse up his mouth, and if you ask him to whistle, he will afford you indications of his inability to perform this as well as other actions. In making the attempt to whistle, you may perceive that he contracts the orbicular muscle of the mouth on the left, but not at all on the right, and so he is quite unable to get his lip into the position necessary for the production of sound; and, while trying to adapt his mouth for this purpose, he smiles or laughs, as is so often the case when you ask a person to whistle, and you are thus enabled to see how completely the action of the features is confined to the left side. The act of smiling or laughing is exaggerated on the left side, and the reason is because the left muscles have lost completely the resistance of those of the right side, which remain perfectly motionless, and which from disease have lost their tone, and have suffered much in their nutrition. For the same reason all the movements of the features which act in symmetry, and

which at the same time counterbalance each other, are found to take place to an exaggerated extent on the healthy side. Hence, in smiling, laughing, and speaking, the face is drawn more or less to the right side: the distortion takes place on the healthy side, the paralyzed side remaining unmoved. The popular notion, in cases of this kind is, that the disease is on the side to which the mouth is drawn. No medical man, however, can fall into this mistake if he be at all acquainted with the real condition of the patient.

Another muscle which is paralyzed in this case, and in all cases of the same kind, is the buccinator. Hence the cheek hangs loose, and, as the patient speaks, it flaps to and fro. This extreme looseness of the cheek is not an early symptom of this form of paralysis; it manifests itself more and more, the longer the duration of the disease, and ultimately becomes the cause of symptoms very troublesome to the patient. It interferes not only with articulation, from its looseness and the flapping movement while the patient is speaking, but with mastication likewise. The palsied muscle allows the food to accumulate between the teeth and the jaw, and fails in its function of supplying the mill with its proper amount of material to be ground. After a little time, patients learn to remedy the defect of articulation which the paralytic condition of the buccinator muscle causes, by supporting the cheek with the hand; and a similar kind of support helps to remove the inconveniences of mastication.

You will observe that all the muscles paralyzed in this affection are *superficial*; they are all muscles more or less concerned in the expression of the countenance. The deep-seated muscles are not affected—these are muscles of mastication—the only muscle paralyzed, which is concerned in mastication, being the buccinator, which is, however, only accessory to that function, and is as much or more a muscle of expression.

And now we come to a most important question—what is the exact nature of this disease? is it a disease of certain muscles? or of a certain nerve or nerves? or is it an affection of the brain? Its one-sided character would denote its being a cerebral affection: it may, however, occur simultaneously on both sides, and I know of one instance of this kind. Experience, however, as I have already told you, assures us that it very rarely indeed accompanies cerebral disease; sometimes it occurs as the result of *intra-cranial* disease, but rarely, if ever, from lesion of the brain itself. What, then, is its nature? Sir C. Bell clearly pointed this out long ago, and to him we are especially indebted for our knowledge of the precise nature of the disease; so much so, that some designate the disease Bell's paralysis of the face. Not that I should recommend you to adopt this name; for I must say that I cannot regard it as any compliment to the great names of our profession, to attach them to any of the numerous ills to which our flesh is heir.

Sir C. Bell first pointed out the true nature of this palsy, because he was the first to unravel the intricacy of the nerves of the face. He showed that one nerve, and one nerve only, was at fault in this disease, and that it was strictly a local paralysis, due to a destruction of the nervous force in some part of the course of this nerve. The affected nerve is the portio dura of the seventh pair: the proper facial nerve which supplies all the muscles paralyzed in this affection, and is the only nerve which supplies them. The fifth pair is not affected, because the muscles of mastication are free, and because the sensibility of the face remains intact. Sometimes the patient complains of slight pains in the face, which may probably be due to a slight affection of the filaments of the fifth, which anastomose with the portio dura.

There is, however, one muscle paralyzed in this affection, which does receive a supply from the fifth—namely, the buccinator. This muscle has two motor nerves—a branch of the facial, and the long buccal nerve from the fifth: the former may be regarded as its nerve of expression; the latter as its nerve of mastication. How comes it, then, that if the first be paralyzed, and the muscle ceases to act in expression, it likewise ceases to act in mastication? The two nerves are distinct; and the buccal nerve is one of considerable size, and to all appearance would seem perfectly adequate to the maintenance of a different action independent of the portio dura. It is not easy to find an explanation of this curious fact, which is equally true if the nerve first palsied be the fifth

—as in cases of hemiplegia, in which the hanging of the cheek is due to paralysis of the buccal nerve, and of the buccinator muscle. The advocates of Dr. Hall's views would doubtless explain it by assigning to the facial nerve a specially spinal character, and to the fifth a cerebral. The palsy of the facial nerve would, according to these views, not only destroy the influence of the will over the muscle, but also cut off its supply of irritability. Without going into other serious and fatal objections to this explanation, it is quite enough to state that it is inadequate to explain the complete palsy of the buccinator muscle when the fifth is the only nerve affected, as in common hemiplegia.

In some instances the velum of the palate participates in the paralysis; and when you look into the patient's throat, you find the uvula inclining away from the paralyzed side, and the velum drawn to the sound side. It is probable that the portio dura exercises some influence on the muscles of the palate through the greater superficial petrosal nerve of Arnold, which arises from the knee-shaped ganglion that is formed upon the trunk of the portio dura in the aqueduct of Fallopius, and communicates with Meckel's ganglion, whence the palate-muscles derive their nerves. Possibly this influence may be more direct in some cases than in others.

As this is a purely local palsy, its causes are generally strictly local. Thus a common cause of it, and especially in strumous children, is *otitis*, and the subsequent caries of the petrous portion of the temporal bone. In such cases the paralysis is generally very complete: it is caused by inflammatory or destructive disease of the nerve in the Fallopian aqueduct, and it is often associated with a discharge from the ear, and with deafness. Injury to the trunk of the nerve may give rise to this form of palsy: hence it often follows surgical operations of the face, and accidental wounds in the parotid region; and formerly, before the true function of the facial nerve was known, when surgeons used to divide this nerve for *tic douloureux*, this form of paralysis used to be regularly manufactured by surgical skill.

A very common cause of this palsy is exposure to cold: as by exposure at an open window in a coach or railway carriage to a current of cold air. The case under our consideration was one of this description, the patient having been exposed the whole day to a cold atmosphere, while in search of work. These are instances of what has been called "*peripheral paralysis*,"—cold acting directly on the peripheral ramifications of the nerve.

Sometimes you meet with cases which cannot be satisfactorily traced to exposure to cold: the patients, however, will be found to be out of health, and to have had pains about the face and neck for some days. It is probable that in all cases which have not a traumatic origin, or are not caused by disease of the petrous bone, there may be some constitutional fault which may show itself in this local malady, just as painful affections of sentient nerves—the fifth, for instance—are undoubtedly generally of constitutional origin.

Mr. Bowman tells me he has met with several cases of distinctly rheumatic paralysis of the portio dura among the patients at the Ophthalmic Hospital, Moorfields.

Very lately I have met with a well-marked case of palsy of the portio dura which was rheumatic in its origin. A man had severe rheumatism of some of the intercostal muscles of the left side. This got well, and then the muscles of the hip became affected, and he was completely lamed in consequence. As these were getting better, he found his face to become suddenly paralyzed on one side, with all the symptoms of palsy of the portio dura.

Periodical neuralgic affections are, I believe, generally due to the determination of some poison to a particular nerve—as the paludal poison, or some matter generated in the system, gouty or rheumatic. There is no reason why such morbid matters should not affect a motor nerve as they affect a sensitive nerve, causing paralysis in the one case, and neuralgia in the other.

The cause of the palsy, in the case under our consideration, appears to have been the direct influence of cold. This view is confirmed by the pain which the patient suffered at first in the neighbourhood of the ear: as if the ear itself and the nerves about it were chilled, and some degree of inflammation excited in them in consequence.

The duration of this palsy varies considerably: it rarely, if ever, lasts a shorter time than ten days, whilst it very often extends to as many weeks: perhaps three or four weeks may be assigned as an average duration for the non-traumatic cases.

The prognosis in cases of this kind should always be founded upon the cause. When the paralysis has been caused by mechanical injury, your prognosis must generally be unfavourable, more especially if any distinct solution of continuity have taken place in the nerve. Nerve-substance is very slow of regeneration; and when it is reproduced, the new fibres do not adapt themselves with precision to the old ones, and so they form very imperfect conductors of the nervous force. But if the paralysis is due to cold, or to some constitutional cause, it almost invariably gets well. But you should bear in mind that, even in cases which are incurable by reason of the solution of continuity of the nerve, there is little in this form of paralysis tending to shorten life, or calculated to prove otherwise than inconvenient, by causing imperfection of speech, mastication, and vision, and sometimes of deglutition.

You will find it necessary to be guided by the cause of the palsy as to the course you will pursue in its treatment. If otitis be its cause, and the inflammation be of recent occurrence, it will be necessary for you to have recourse to the usual antiphlogistic measures for its suppression; and in such a case it may be desirable to carry the use of mercury to ptyalism. In the palsy from division of the nerve, all medical treatment is useless; and when the disease has been caused by cold, or has arisen from any constitutional cause, much medical interference is not requisite. If there be pain of the face, warm fomentations will prove useful. Sometimes a few leeches at the angle of the jaw, or over the parotid space, or behind the ear, may be tried, or a blister, or iodine paint. I cannot say that I have ever known clear and distinct benefit produced by any of these remedies in shortening the duration of the palsy.

In the use of internal remedies you must be guided by the diathesis, and the existing condition of your patient. Mild purgatives are generally useful, and sometimes alkalies and sudorifics, and I have seen decided benefit from the use of the iodide of potassium. I cannot name to you any remedy which will act specifically on the palsied nerve. Strychnine is of no use in such cases.

As to local remedies, I advise you to abstain from the use of them if possible. Blisters are open to this objection, that they sometimes cause enlargement of the neighbouring glands of the neck, which, by their pressure, may increase the evil we wish to remove. Galvanism, used carefully, may be useful,—always remembering, in the use of it, to vary the direction of the current, and never to carry it on so long as to exhaust any small amount of nervous force which the nerve may be capable of generating.

Our patient has been treated chiefly by leeching and fomenting, and purging, in the first instance, and afterwards by the iodide of potassium. He has been completely relieved of pain, and his muscular power is beginning to return. I propose shortly to try the effects of galvanism with him.

He suffers from a very troublesome symptom, of constant occurrence in these cases, and which is very difficult to deal with—I mean irritation of the conjunctiva, occasioning free lachrymation and soreness of the eye. This is obviously due to the constant exposure of the eye, occasioned by the loss of the power of winking; and it can only be obviated by attention on the part of the patient to the protection of the eye, or by his wearing a shade to cover it.

ART. 9.—*Remarkable Spasmodic Affection of the Muscles supplied by the Portio Dura.* By Dr. RANKING.

(*Prov. Med. and Surg. Journal*, March 12, 1849.)

A lady, aged 65, consulted Dr. Ranking for an affection which had caused her very great distress, although not accompanied by any severe amount of pain. Her health had been generally good until twelve months back, when she became the subject of pain in the limbs, apparently of rheumatic origin. About the same time she first noticed the commencement of the affection for which she sought my advice, and which consists of a peculiar spasmodic twitch-

ing of all the superficial muscles in the left side of the face. This originated in the left genio-hyoid muscle, but had now engaged the orbicularis, the levator angulæ oris, the zygomatics, and in fact every muscle supplied by the portio dura, on the left side, and showed a disposition to extend to the other side. The twitchings occurred at intervals of about one minute, and lasted during twenty or thirty seconds, so that there was scarcely any abatement during the day, and these twitchings were so violent that articulation was impeded, and the patient was constrained to apply her hand to the cheek to restrain its motions. There was at the same time considerable lachrymation, but no pain, beyond a feeling of dragging from the abnormal muscular action.

Dr. Ranking examined the patient carefully to discover some explanation of this unusual symptom, but could find none. There was occasional pain in the head, and giddiness, but not more than is seen in ordinary gastro-hepatic derangement. There were no symptoms of paralysis, nor any affection of the special senses. He made out particularly that she had no noises or imperfection of hearing, and had never suffered from otorrhœa. The appetite was good, bowels regular, and in fact, but for her distressing nervous affection, she would have considered herself well.

She was ordered quinine and steel, with belladonna frictions in front of the meatus auditorius, but the result was not known.

This case is placed on record from the belief that it is an affection of very unusual occurrence. The writer consulted such works of reference as were at his disposal, but could find only one similar case, which Dr. Graves has narrated (*Clinical Medicine*, 2d ed., vol. i., p. 571), as an instance of a disease hitherto undescribed. His case was also that of a female, past the meridian of life, but it appears to have been of longer duration, and had invaded both sides of the face. No account of the progress of the affection is recorded, nor is any explanation of the phenomena attempted.

ART. 10.—*Singular Spasmodic Action of the Lower Jaw.* By DR. SPITTAL.

(*Dublin Medical Press*, March 21, 1849.)

The case in question was that of a man aged 88 years; he was nearly a pure negro, and had been in early life a weaver. He was first seen by Dr. Spittal on the 2d February, 1848, and laboured under bronchitis to a slight extent, together with other ailments usually accompanying approaching dissolution from old age, under which he seemed chiefly to sink. He died eight days subsequent to the above date. On visiting him, Dr. Spittal was struck with a remarkably loud intermittent rasping noise, not unlike the croaking of a young raven; and not knowing whence the sound proceeded, Dr. Spittal inquired if any such bird were in the room, when he was informed that it was caused by the patient grinding his teeth. This, it was said, he could not avoid when awake, unless he forcibly kept his teeth asunder. To avoid the fatigue of this voluntary effort, he was in the habit of interposing different substances between the teeth, sometimes the edge of the bedclothes; at other times small, flat, wedge-shaped portions of wood, or a small bone button depressed in its centre, which he placed between the canine teeth. The teeth were generally very much worn down and flattened on their surfaces. Dr. Spittal was informed that this habit had existed more or less for about sixteen years, and was said to have commenced with pains like those of rheumatism in the head. It was also stated that, a few years previous, the patient had passed a large round worm, after which the grinding had diminished, but still continued. He had since been occasionally affected with abdominal uneasiness, but passed no more worms. His bowels were said to have been generally constipated. Dr. Spittal stated that this was an affection of a peculiar nature, and such as he had never before met with or heard of. Dr. Alex. Wood, who had also known the patient, thought that his disease was simulated. Dr. Spittal did not consider that the circumstances of the case warranted such a conclusion, as the man was evidently labouring under considerable suffering, and died, as before stated, in a week after his being first seen. Dr. Sellar remarked that there could be no

doubt that a convulsive action of the muscles of the jaw occasionally took place, and stated that he had seen a girl, in whom this followed acupuncture in the chin. A loud, uneasy grinding of the teeth was the consequence; to remedy which she used to insert the steel busk of her stays and pull the jaw forcibly down.

[This case is not unique; the curious affection described has been some time since alluded to, and cases narrated by Dr. Graves in his "Clinical Lectures," 2d edit. vol. i. p. 45. This, Dr. Spittal was not aware of when he read his own case.]

The affection is described by Dr. Graves as "*an insuperable desire, on the part of the patient, to grind his teeth*,"—originating in a "disagreeable, uneasy sensation in the teeth themselves, which is for the moment alleviated by forcibly grinding them together, but immediately returns when the patient ceases to perform this action, which is therefore continued, when the disease is confirmed, during the entire day. When asleep, the patients no longer grind their teeth, the grinding being in all cases the result of voluntary motion." The first case stated, is that of the Countess of Egmont, in whom the grinding was so confirmed as to impel her to indulge in it continually; for when she desisted, the uneasy sensation in the teeth became insupportable; and consequently she had to give up all society several years before her death. The grinding was strong and forcible, and the teeth were worn down to the very sockets. Second, the Rev. Mr. B—— was driven from society by the same affection. The teeth were much ground down, and the incisors and canine, by being whetted on each other, acquired chisel-shaped edges, which sometimes cut the tongue like a knife.

The third case was that of a young clergyman, who was afflicted with *tic douloureux* of several branches of the fifth pair including the left dental nerve. In this instance, the teeth of the *left side only* were ground down. The disease ceased, after continuing two years.

The fourth case was that of Henry W——, aged 60, who, three years previous to the time of the Report, gradually got the habit of grinding his teeth, which he then did constantly while awake, and "*so loudly as to be heard in the next room*." He is said to be unconscious of it, unless when spoken to. The teeth, in this instance, also were ground down.

The fifth case—a gentleman, aged 45, after a severe wetting, was attacked with paralysis of the right side. He recovered, but, about a year after, observed in himself a tendency to grind his teeth, which gradually increased so as to prove a "*nuisance to himself and every one about him*." He appeared to be relieved for six months by the actual cautery applied behind one ear, the use of mercury, and the extraction of one tooth. The affection returned, however, as bad as ever, when iron and other remedies were tried in vain. By pressing the tongue against the upper incisors, or by touching a certain point of one particular tooth, he could at any time arrest the grinding and suspend it as long as the pressure was continued. Dr. Graves is of opinion, that the irritable state of the dental nerves, which gives rise to this irresistible tendency to grind the teeth, depends chiefly on the existence of gout in the constitution.

Dr. Spittal trusted he had shown that such an affection as that under which his patient had laboured was really founded in nature. At the same time he did not mean to deny the possibility of the man, who was poor, and probably had found sympathy for, and, perhaps, profit from his disease, having simulated the affection on fitting occasions. The circumstantial evidence, however, connected with the history of the last week of the man's existence, appeared altogether at variance with the idea that the affection was feigned on that occasion.

ART. 11.—*Case of Acute Cerebro-Spinal Arachnitis.*

By ROBERT MAC DONNELL, M.D.

(British American Journal of Medical Sciences.)

[The details of the following interesting case are taken from a reprint obligingly sent to us by the author.]

Col. F—, aged 54, of uncommon strength and stature, being six feet five and a half inches in height, first consulted the author twelve months previous to his present illness, for a tumour in the left scapular region, the size of a goose's egg. This was removed. His pulse was observed to be peculiar, being only 48, and irregular; but little importance was attached to this, as it had been noticed from the age of childhood. In July he again consulted Dr. Mac Donnell for renal calculus, which was treated by the usual means. His fatal illness commenced in the following way:

On the 24th of October, he complained that, two days previously, he had had rigor, with nausea and cramp. When seen, he was complaining of headache, loss of appetite, and thirst, but was cheerful. He was ordered aperients and diaphoretics, under which he appeared to be improving for three or four days.

On the 27th, at 10 A. M., the author found him in bed complaining of great pain across the loins, with some fever. The pulse 50, and extremely irregular. The urine was free now and throughout the illness, a point to which the author calls particular attention. He was ordered calomel, James' powder, and nitre, of each two grains.

At four o'clock he appeared altered, having refused his medicine, and became silent, lying on his side, and moaning when moved. His replies were short and surly, and when the author attempted to feel his pulse, he observed, *that the least touch induced severe pain, and retraction of the limb.* This was first thought to be only a movement of impatience, but it was subsequently ascertained *that the least touch in any part of the body gave intense pain, and that the suffering was augmented by increase of pressure.* It was also seen that even the touch of a drop of water on the skin produced the same effects. That the convulsive retraction of the limbs was accompanied by excruciating pain was shown, not only by the patient's moans, but by the agonizing expression of countenance while touch was continued, and the perfect calm which followed the removal of the hand.

In consultation, it was determined to counter-irritate the whole length of the spine, and calomel, in five-grain doses, was exhibited every half hour, by blowing it into the mouth through a quill, every contact with the lips producing spasmodic efforts at deglutition, like those of hydrophobia.

[It is to be regretted that no positive information is given as to the probability of the patient having been bitten by a rabid animal, for, as will be seen more particularly by what follows, there was a close resemblance to the symptoms of true hydrophobia.]

Mercurial ointment was rubbed into the groins and axillæ, and the blistered surface was dressed with the same. By watching for the relaxation of the muscles of the jaw, allowing of the opening of the mouth, we succeeded in introducing the calomel and a small quantity of brandy and water, at appointed times.

The exalted sensibility was not confined merely to the nerves of touch, for, when ammonia was kept near the nose, or when a gleam of light was suddenly thrown upon the eyes, or when he was spoken to in a loud voice, the same spasmodic twitching of the whole frame took place, and the same expressions of anguish were uttered. There was no paralysis of the upper or lower extremities, nor were there any convulsive movements of these limbs: on the contrary, he appeared to have complete control over them, for on one occasion he turned on his side, took a chamber utensil, passed water into it, and then replaced it on a chair near the head of his bed. He occasionally made attempts to get out of bed, but, to the amazement of us all, his efforts were most easily restrained. The patient became gradually more and more feeble, and died exhausted.

The *post-mortem* examination revealed some congestion of the cerebral sin-

uses. The dura mater was healthy; the arachnoid was opaque, and between it and the surface of the brain there was extensive effusion of gelatinous lymph. This effusion was more consistent, and the membrane more opaque on the anterior lobes and at the base of the brain. The ventricles were occupied by a quantity of serum, and in some points, the opposed surfaces of arachnoid were glued together by recent adhesions, a condition that was well marked at the junction of the anterior lobes of the hemispheres in front of the corpus callosum. In other respects, the structure of the brain and of the cerebellum was quite free from disease. The upper portion of the spinal arachnoid was very opaque, but the opacity throughout the remainder of its extent was not so well marked, but its cavity was filled with a great quantity of serum, which flowed out abundantly when the body was raised, so as to make the occiput the more depending portion; and it was likewise observed to well up from any accidental puncture of the theca, made whilst taking out the spinal marrow. Both in the brain and in the spinal cord the *pia mater* was much injected, and in the latter, that portion of it which corresponded to the lumbar region exhibited this increased vascularity to a much greater degree. The structure of the cord and its nerves, like that of the brain and cerebral nerves, was quite free from inflammation.

Thorax.—Lungs remarkably healthy, only one trifling point of adhesion to the pleura, at the anterior and upper part of right lung. Heart not increased in size; no alteration whatever of its valvular apparatus, or lining membrane. There was no fatty degeneration, pericardial adhesion, or ossification of the arterial trunks.

Abdomen.—Liver, stomach, intestines, and spleen, healthy. The kidneys exhibited no disease in their cortical or tubular portions, but the pelves of both, particularly that of the left kidney, were dilated, and their lining membrane exhibited a dotted appearance, the result of punctiform ecchymosis. This condition of the membrane extended downwards in both ureters for a couple of inches. The remainder of the ureters and the structure of the bladder, were quite healthy. In the tubuli uriniferi of both kidneys we discovered a large quantity of minute calculi of lithic acid, varying in size from a mere point to that of a grain of mustard-seed.

[The author comments upon this interesting case as follows:]

Within the last few years, "cerebro-spinal arachnitis" has attracted the attention of pathologists in an especial manner, in consequence of its having presented itself in an epidemic form in France during the years 1839, 41, 42, and 43, and more recently in Ireland in 1846.

[The latter epidemic has been described by Dr. Mayne. See "Half Yearly Abstract," vol. iv. p. 230.]

In the rapidity of its course, resistance to treatment, peculiarity of symptoms, and in pathological appearances, the above case resembles the general character of the disease, but in the age of the patient it differs from any on record, so far as I have been able to discover; nor is any case mentioned, where the cutaneous sensibility of all parts supplied by *spinal* and *cerebral* nerves was developed in so exalted a manner. Dr. Mayne has alluded to the "soreness all over," complained of by a patient admitted into the Hardwicke Hospital, under Dr. McDowell, to whom he attributes the discovery of this symptom. But, since this subject has been attentively investigated, the extreme sensitiveness of the surface supplied by nerves emanating from the portion of the cord engaged, has been noted as almost pathognomonic of the disease. Thus, Ollivier mentions it as a marked symptom, in one of his cases, that even the bedclothes could not be borne; and Monsieur Grisolle says, "Souvent aussi ces parties sont le siège de crampes, tandis que la peau présente une exaltation de sa sensibilité telle, que la moindre pression exercée sur elle, ou le plus léger mouvement imprimé, arrache des cris aux malades. Cette exaltation se remarque surtout aux membres;" and in a case published in Graves's Clinical Medicine, where the matter from a carious temporal bone had penetrated the dura mater, and gravitated downwards along the spinal cord to the cauda equina, I mentioned, in my notes of the case, supplied to Dr. Graves, being at that time his clinical clerk, that, "*a few days before death, he was attacked with spasms, resem-*

bling those of tetanus, and the surface of the body became exquisitely tender to the touch," though the membranes of the cord were quite healthy, from which it may be inferred that this exalted sensibility of surface is rather a measure of the irritation of, or pressure upon, the roots of the nerves, than of the inflammation, for we find that, in some of the cases of apoplexy of the spinal cord, described by Cruveilhier, excessive pain and spasms frequently preceded paralysis of the limbs supplied by the nerves involved in the disease—and in true myelitis, the limbs are usually attacked with tetanic spasms followed by paralysis; but we have not the excessive pain on motion of the limb, or on pressure, which characterizes arachnitis of the cord, and spinal apoplexy—although the nerves, even before they emerge from the cord, must be deeply involved in inflammation. This subject requires, however, further investigation.

The reader will recollect that, during the course of the disease, *the urine was passed several times*, and that neither from the surface of the body, nor the substance of the brain, was the least odour of urea exhaled. I am anxious to direct his attention to this fact: for the sudden supervention of cerebral symptoms in an individual, subject to gravel, might have been attributed to the absorption of urea, were it not that the secretion and evacuation of this substance were efficiently performed.

[The annexed case, by Dr. Golding Bird, may not inappropriately follow the above, as in some symptoms there was a marked similarity, and especially in regard to the extreme cutaneous sensibility and the convulsive movements excited by the slightest touch. The result was, however, widely different.]

ART. 12.—*Anomalous Case of Spinal Affection.* By Dr. GOLDING BIRD.

(*London Journal of Medicine*, No. 1.)

The lady who was the subject of the following case resided in a town in Essex, about forty miles from London. I was summoned to her on the night of September 19, 1844, to meet Dr. Baker, and Mr. John Thorpe of Maldon, the physician and surgeon under whose care she was. This lady was aged 43, of most amiable disposition, possessed of great moral courage and firmness of mind; one, indeed, who was disposed (to use her own words) "to look on the best side of everything," and in no way the subject, at any period of time, of the class of ailments set down as nervous, hysterical, &c. She had been married sixteen years, and had never conceived; menstruation was performed regularly and painlessly; her general health was good, indeed excellent, although perhaps not robust. Her circumstances in life were affluent, and she declared that neither mentally nor bodily had she experienced any anxiety for years. The following history was given me. Six weeks before my visit, whilst at church, she fancied that a gnat, or some other insect, bit her right leg a few inches above the ankle, and on returning home, as she felt some pain, she removed her stocking, and discovered two small punctures like those inflicted by a gnat. Believing that she had merely afforded a meal to one of those winged depredators, she thought no more of it, although she distinctly recollects feeling pain in the seat of the punctures all the next day. On that day she went on a visit to a town in a distant part of the county, and in the evening the leg became painful, swelling about the locality of the bites, and felt, as she expressed it, death-cold. As, on the ensuing morning, the swelling appeared increasing, she took alarm and returned home, and summoned her physician and surgeon. Dr. Baker informed me that, on his visit, the *right* leg appeared to be the subject of absorbent inflammation; in the course of another day or two, this became severe; the thigh swelled considerably, the inguinal glands became large, hard and painful, the whole limb being white and intensely tender, as like phlegmasia dolens as possible. This swelling and tumefaction, under judicious treatment, slowly subsided; but intense pain, apparently neuralgic, remained in the limb, most intense in the tract of the sciatic and anterior crural nerves. A few days passed over, and just as the patient was congratulating herself on approaching convalescence, and before she had left the bed, the *left* leg began to swell and become painful, and the left inguinal glands were in-

flamed; and this limb went through the several stages of what was regarded as phlegmasia dolens, only more rapidly, and with less pain than the other. On its recession, however, it left behind the same painful sequelæ, so that the patient was tortured by neuralgic pains in both limbs—most intense in the course of the two great nerves before alluded to. The tract of the pain was continuous from the ischiatic notch to the junction of the last lumbar vertebra with the sacrum, where there was, to use the lady's words, "a concentration of agony"—the slightest touch producing insufferable torture. This excessive intolerance of pressure in that region slowly subsided, and was followed by the insidious accession of the symptoms under which I found her labouring. The first of these was observed a week before my visit, and consequently five weeks after the supposed gnat-bite.

I found her lying on her back in bed, with a remarkably cheerful expression of countenance, and slightly flushed face and hot skin,—both which appeared to be owing to a medical examination at midnight, rather than to disease, as they were replaced by a cool skin and rather pallid cheek, before I left her chamber. She spoke cheerfully, and generally with a smile, as was customary with her. Pulse 88,—generally, however, being but 70; tongue clean and moist. Seeing her thus cheerful, I took her hand; and in an instant a marvellous change came over her—the hand was convulsively contracted, the arm jerked up with almost tetanic violence, the face assumed a hippocratic expression of anguish, and she uttered a scream of pain. Proceeding with my examination, I found that, when lying calmly, she was free from all pain; but the slightest touch of the limbs produced these tetanic convulsions, accompanied by intense pain in the spine. It was remarkable that a *gentle touch, or fillip with the finger, produced these attacks with the greatest intensity,—a carefully applied and firm grasp causing but little uneasiness.* The sensibility of the arm-to touch was, however, far less than that of the feet. Here the touch of a feather was sufficient to produce convulsions more intense than I have ever witnessed, save in tetanus or hydrophobia; the legs and thighs becoming of an iron-like hardness, from the violent spastic contractions of the muscles, and the pain in the lumbar region of the spine being most distressing. Slighter spasms were excited in the muscles of the chest or abdomen by a sudden touch or pressure of the integuments of these regions, provided it were applied below the mammæ: above this part, as well as on the face and neck, I was by no means satisfied that any morbid excitability existed. It was remarkable that, when the arms were thrown into the state of spasm, she always referred the pain to the upper dorsal region; and when the legs were convulsed, she complained alone of the sacro-lumbar spinal region. Ordinary sensation and motion appeared perfect, at least, so far as she could judge; for she dreaded all attempts at motion when in bed, as the mere friction of the moving limbs against the bedclothes was sufficient to excite all the distressing symptoms I have endeavoured to depict: in the free air, and unsupported, she certainly could move her arms, and when supported by two other persons, she could readily move her legs. Her strength was nearly gone; she felt excessively weak, and could scarcely, by being half-carried, totter to her sofa; and at each pressure of the feet against the floor, spasms came on.

On examining the spine (which was well-formed) by pressure, as well as by the application of a hot sponge, I found but little pain experienced in the cervical region; the dorsal was tender, and any blow there gave her a painful thrill, with the excitation of slight spasms in the upper extremities. The pain increased in proportion as the pressure was applied lower, until the last two lumbar vertebrae were reached, where a sharp blow produced insufferable pain, and a rigidity of the legs approaching opisthotonos; the sacrum, however, could be struck, and the coccyx bent up, without pain. There was neither involuntary action, nor paralysis of the bladder or rectum; appetite excellent: bowels open daily. Urine at night, clear, neutral, sp. gr. 1020; in morning, deposited urate of ammonia, acid, sp. gr. 1028; at noon, pale like water, acid, sp. gr. 1008. All the specimens were free from albumen, and did not become alkaline in twelve hours.

I confess I found myself in no small difficulty in coming to a determination

on the nature of this very curious case. I had before me a lady, naturally anything but irritable, or of nervous or hysteric temperament, who, a few weeks before, was in good health. She suffers, as she believes, from the bite of an insignificant insect, and within twenty-four hours, absorbent inflammation commences in the bitten limb; this runs through a severe but not protracted course, nearly identical with that of phlegmasia dolens in a puerperal woman; the tension subsides, but pain in the tract of the nervous trunks remains. After a short pause, a less intense but similar state appears in the unbitten limb; the phlegmasia subsides, but neuralgia is left. The vascular action in both limbs having disappeared, the neuralgic pains appear to mutually advance, and meet: and are found in greater intensity at the sacro-lumbar articulation. A temporary and delusive improvement in general health occurs, only to be succeeded by an exalted irritability of the whole extent of the spinal cord, from the cervical region downwards, the *reflex function becoming intensely marked, quite independent of any loss of the influence of volition over the limbs, and a physiological condition being presented, resembling more closely that observed in a decapitated snake than any other.* The brain was unaffected; memory, reasoning, the senses, all perfect; motion and sensation universally unaffected. In a word, but one conclusion could be drawn—viz. that my patient was suffering from a highly irritable state of the true spinal axis, whatever else she may have been labouring under. All acute action was gone; the calm face, the clear tongue, the quiet pulse, the correct condition of the functions, all indicated the absence of any of those morbid changes included in the phenomena of inflammation, and connected probably more particularly with want of integrity in the vegetative or organic nervous system. Then the perfect consciousness, sensibility, and volition demonstrated the integrity of the brain; the want of peripheral pains, the absence of morbid changes in the urine, and absolute freedom from all paralysis showed, at least, that there could be no important organic lesion of the spine. One series of functions of this important element of the nervous system seemed nearly alone involved—viz. those which are comprehended under the term of *reflex*, and to which the attention of physiologists has been directed by the laborious and philosophical researches of Dr. Marshall Hall. Yet my experience failed in bringing to my recollection another similar case. I could only look to tetanus and hydrophobia on the one hand, and to chorea on the other, for any justification of the opinion I arrived at, and yet I need not say how infinitely distant were such analogies. I, however, ventured to give the following opinion: that the gnat-bite having inoculated the patient with a morbid poison, absorbent inflammation occurred as from a dissecting wound, which ran its course, involving probably in the contemporaneous inflammation the femoral nerves; and, on the subsidence of acute action, left the patient (as is not uncommon after ordinary phlegmasia dolens), the subject of intense neuralgic pain in the affected limb. After the recession of absorbent inflammation in the other leg, the irritable state of the nerves was propagated to the spinal cord, perhaps by extension of a very low form of inflammation, and the result was the production of an exalted irritability of the spinal marrow, analogous to that produced by the inoculation of strychnia.

I am quite prepared to hear this opinion found fault with, for at least it was but begging the question. I have candidly given it in the words in which I expressed it at the time to Dr. Baker and Mr. Thorpe. I suggested the following mode of treatment:

1. Keeping up the general health, and backing up the constitution against the local disease, by bland, nutritious diet.

2. Endeavouring to reduce spinal irritability by rubbing unguentum veratriæ (veratriæ gr. viij, adipis 3vj) along the spine twice a-day.

3. Endeavouring to restore the reflex influence more to the dominion of the will, by nervine tonics, and gently stimulating the capillary circulation generally, by the mildest alteratives. As she had taken mercurials before I saw her, I suggested sulphate of zinc in doses of gr. j three times a-day (the dose being increased every third day), with gr. iij of iodide of potassium. I need hardly say I suggested the sulphate of zinc from its remarkable influence in chorea and allied affections.

A month passed over before I heard of her progress. The excited state of the spine had, I learnt, rather increased for a week after my visit, and then became stationary. As she did not improve, the family became anxious; further consultation was desired, and I was again summoned on October 21st, not quite five weeks after my first visit. I found the patient as cheerful and happy as before, perhaps rather improved in health. I fancied that the spasmodic shocks—for such alone was the term I could apply to them—were less intense. I could, however, arrive at no other opinion than I had previously, and I begged a continuance of the treatment. She had borne the sulphate of zinc well, up to \mathfrak{Hj} thrice a-day. I replaced it by valerianate of zinc for a change, and substituted ung. aconitinæ (aconitinæ gr. j, adipis \mathfrak{zj}) for ung. veratriæ. I heard of her afterwards several times by letter; and at my wish, as she was left anæmiated, iron, in the form of the ammonio-citrate, was given for a few weeks, and the nervous energy of the weakened limbs restored by carefully and gently applied electro-dynamic currents. I did not see this lady again until the 21st of October, 1845, exactly a twelvemonth after my last visit; being called to a patient in a neighbouring village, I went on to her residence to see her. I was much gratified at seeing her in her drawing-room, sitting in an easy chair, from which she rose, with but a slight effort, to welcome me. Her history, from the time of my seeing her a twelvemonth before, may be told in a few words. The state in which I left her gradually subsided, under the use of the remedies; the pain in the legs continuing after the cessation of spasms. At the end of the month, the latter ceased, having been gradually and insidiously replaced by partial paralysis of motion, a condition from which she had very slowly emerged under the influence of the electricity; and when I saw her she was absolutely well, with the exception of some rigidity in the limbs, rendering assistance necessary in walking. She has managed to get to church, up a tolerably steep hill, without support.

[The author concludes by submitting for discussion the following points, having, in the course of the narrative of the case, expressed his own opinion with regard to some of them:]

1. Had the gnat-bites, and the consequent absorption of a septic poison, anything to do with the origin of the affection?
2. Was the supposed phlegmasia dolens really phlebitis, or inflamed absorbents? or, was the inflammation really limited to the tract of the nerves of the limbs?
3. How came the unbitten leg to be involved?
4. Was the affection of the spinal cord confined to its theca, and secondarily only affecting the portion presiding over reflex phenomena? or, was the condition simply one of irritation?
5. Was the subsequent paralysis of motion a result of the same state of the spine which co-existed with the excited state of the reflex functions? or, was it a mere consequence of exhausted energy, such as is observed in the leg of a frog, after over-stimulating it by a galvanic current?

ART. 13. — *On the Therapeutic Value of Electro-Magnetism in Rheumatic Paralysis.*

By WILLIAM DAVIS, M. D., Physician to the Bath United Hospital.

(*Prov. Med. and Surg. Journal*, Nov. 15, 1848.)

[The case in which the benefit of the above agent was exemplified, was one of subacute articular rheumatism, which had produced such serious changes in the articular system, that the patient was unable to walk, or use her hands. She was admitted twice into the hospital, and underwent the ordinary treatment. Her condition, on the second occasion, was materially worse, as she was unable to grasp anything in her hands. The warm bath afforded some relief; and at the period of leaving the hospital she was able to walk a few yards with assistance. The subsequent progress of the case is as follows:]

From the middle of June, the time of her quitting the hospital, until the first week in August, she remained with her friends in a most helpless condition, quite unable to do anything for herself; she was then removed to an apart-

ment near the hospital, with the view of trying the effect of galvanism in the warm bath. She was galvanized in the bath daily, with few exceptions, for a fortnight, at the end of which time she was able to walk from the place where she lodged to the hospital and back again, a distance of 300 or 400 yards, an exploit she had not previously performed for more than eighteen months. At this time the application of the galvanism was arrested for a month, in consequence of the great inconvenience attending its use in the common slipper-bath—the only one at my disposal. During that month, she retrograded to nearly her former condition, being unable to do more than walk across a room, and that not without difficulty and with support. On the 23d of September, I was enabled again to have recourse to galvanism, in a bath admirably adapted for the purpose, through the kindness of Messrs. Green and Simm, the lessees of the baths. From this date, she was galvanized daily, with the exception of the Sundays, for two months, during which time she improved gradually but rapidly, until it was considered no longer necessary to continue the treatment, from her recovery being complete. I am indebted to Mr. Tyler, chemist, of this city, for having taken off my hands the troublesome and laborious office of applying the galvanism. The apparatus used was the ordinary electro-galvanic. The application was continued at first for a quarter of an hour, but subsequently, during half an hour. She took no medicine of any kind while under treatment by galvanism.

The writer thinks it is proper to call attention to one point in the relation of the case, which seems to remove any doubt which might exist, as to whether galvanism really was the efficacious cause of cure, or only a mere coincident. 1st. It could not have been the warm bath alone which brought about the cure, as full trial had been given it under similar circumstances previously, without any appreciable benefit. 2d. That it was the galvanism, is proved by this: that, under the first fortnight's application, great improvement took place; that all this improvement was lost during a month's suspension of the treatment; and that on its resumption improvement was again manifested, which went on under its continuance to a perfect cure.

The patient has returned to her occupation of ironer for more than three months, and now stands at her work during twelve hours a-day, six days in the week. By the evening her feet become somewhat painful and swollen, as also her hands; but she told the author within the last week that she was quite well, and that, if she had it in her power to follow any occupation that did not involve so much standing, she should be as well as ever she was. The author proceeds to remark—

The above case illustrates sufficiently well the therapeutic influence of electricity in one form of disease,—namely, rheumatic paralysis of the muscles of the extremities, the great nervous centres remaining intact; and that this is the particular form under which we ought to expect benefit to arise from the use of electricity, perhaps, more than under any other, will, I think, appear from a short review of what we know concerning this agent, in its relations to living beings.

Professor Matteucci, of Pisa, to whom we are indebted for nearly all the precise knowledge we possess on this subject, has shown that there is a constant current of free electricity traversing the muscles of all animals, even of man himself;—that the course of the current is from within outwards;—that the higher the animal is in the scale of being, the greater is the amount of electricity developed; that any cause which has the effect of reducing the vital power of an animal, and impairing its due nourishment, diminishes, proportionately to the extent of change, the intensity of the muscular current;—that immersion of an animal in sulphuretted hydrogen gas destroys the current altogether, and, on the other hand, that anything which tends to increase the development of muscular power, increases also the electric current in those muscles.

It has been observed by Pfaff and Ahrens, and also by Humboldt, as will appear from the following quotation from Müller's Physiology, that in rheumatic affections the electricity of the body is at zero. They say: "During the continuance of rheumatic affections, the electricity of the body seems to be

reduced to zero, and to become manifest again as the disease subsides. It appears to Humboldt, also, that rheumatic patients had an insulating action on the feeble current produced by a simple galvanic circle."

It has been shown that muscles lose their power of contraction when the current of blood towards them is obstructed; this has been observed in the human subject after ligature of a large arterial trunk in the muscles supplied by that vessel, and also in the hinder extremities of animals after ligature of the abdominal aorta. Müller, speaking of the influence of the blood on the contraction of muscles, says: "It is therefore certain that the arterial blood undergoes in the motor organs a change, which, while it gives the blood the venous character, renders it unfit to maintain in the muscles their contractile property,—in other words, that the property of contractility requires for its perfect preservation the constant action of arterial blood on the muscular fibre."

Now, Davy and Faraday, among their numerous additions to physical science, have proved this—that, wherever chemical action takes place, free electricity is produced; in fact, that chemical affinity and electricity are identical powers. Liebig has shown that, if fresh muscular tissue be cut small, and macerated in distilled water, it gives an acid reaction on litmus paper, and this, notwithstanding the large quantity of alkaline blood contained in its vessels, thus proving a secretion from the capillaries of an acid nature: so that in muscles there exist an alkaline fluid within the vessels, and an acid fluid without, a moist animal membrane intervening, a condition of matters which has been abundantly proved capable of producing chemical action, and, consequently, of setting free electricity.

Now, from what has been said, it has been shown—

- 1st. That there is in all muscles a constant current of free electricity.
- 2d. That the intensity of the muscular current bears a direct ratio to the vigour of the animal, and the degree of development of the muscular structure.
- 3d. That immersion of an animal in sulphuretted hydrogen gas destroys the current altogether.
- 4th. That, in rheumatic affections, the electricity of the body is at zero, but becomes manifest again as the disease subsides.
- 5th. That a constant supply of arterial blood is essential to the contractile power of muscles.
- 6th. That wherever there is chemical action, free electricity is developed.
- 7th. That the conditions of chemical action exist in muscles, by means of the alkaline fluid within, and the acid fluid without the vessels.

Analogous to this last head, and confirmatory of its truth, is an experiment performed by Aldini, at Guy's Hospital, in 1803, in which he took the prepared leg of a frog, and held the extremity in his hand, previously well moistened with salt and water, while he allowed the free end of the sciatic nerve to touch his tongue; contractions of the muscles of the frog's leg were immediately produced, thus proving the existence of an electric current passing between the internal and external surface of his body. See, for further details, Dr. Bird's "Natural Philosophy," or his lectures before the College of Physicians, in 1847, published in the "Medical Gazette." Donné, in the "Ann. des Sciences Nat." for February, 1834, gave the explanation of this experiment, by referring it to the different chemical conditions of the integument of the body, and the mucous covering of the alimentary canal,—the one being acid, and the other, for the most part, alkaline, meeting at the mouth, nostrils, and anus. It will be seen that this condition is similar to what has been already mentioned as existing in muscles.

Now, if we keep before us the various facts I have adduced, and venture on an attempt at their estimation, the following may, perhaps, appear not altogether unreasonable:

1st. We have the fact of a constant electric current in the muscles of all animals. What are the conditions which diminish this current? 1. A low position in the scale of living beings. 2. Imperfect development of the muscular structure, with depressed vital powers. 3. Immersion of an animal in sulphuretted hydrogen gas. 4. A rheumatic condition of the system. All (it will be observed) circumstances in which the free action between the arterial

blood and the muscular fibre is either interfered with or destroyed, and all circumstances which impair the contractile power of muscles.

2dly. What are the conditions which increase this current? Everything that is the opposite of the above; high vital powers, full development of the muscular structure, in fact everything that promotes the free action between the arterial blood and the muscular fibre,—everything that is essential to powerful muscular contractions.

These facts seem to point to a very close relation between muscular contractility and electricity, if they do not go far enough to show that the one stands to the other in the relation of cause and effect; and they certainly furnish a very strong theoretical reason, anterior to all experiential evidence, in favour of electricity as a remedial agent in certain forms of impaired muscular contractility.

ART. 14.—*Case of Periodic Convulsions cured by Electro-Magnetism.*

By Dr. BYRNE, U. S.

(*Charleston Medical and Surgical Journal.*)

[The following case is an addition to the many now on record, which exhibit the beneficial actions of one of the most potent, at the same time most easily applied, of our remedial agents.]

A girl, æt. 12, was first seen on April 5, 1848. She was insensible, hands clenched, pulse 85, regular, head cool, respiration easy. She was violently convulsed, rolling on the floor for a period of three hours, when she fell asleep, after which she awoke well. This occurred daily. She had been freely bled and purged. Her head and spinal column were well formed, and she had never received any injury. Ten grs. calomel were immediately given, followed by castor oil and spts. turpentine for the ensuing morning.

April 6th, 9 o'clock A. M., the author found her up, and she expressed herself as feeling well; pulse natural, 78; but at 4 P. M. was called to see her in a paroxysm similar to that of yesterday, and applied large mustard poultice to the abdomen, and mustard plasters to inside of the arms and legs. When she could swallow (which was at irregular intervals), he gave large doses of tinct. valerian and assafetida, and enemata of same with turpentine occasionally; the paroxysm lasted three hours, and passed off as usual.

From this time to the 10th of April, she presented the same condition during the forenoon described above; the convulsions recurred regularly at 4 P. M. each day, gradually increasing in violence, and lasting, as usual, from three to four hours.

After the failure of various remedies, the author proposed the use of electro-magnetism. He visited the girl at 4½ P. M. on the 10th, and found the fit on her. The fingers were violently pressed into the palms; the forearm flexed on the arm, and both drawn forcibly against the chest; the knees drawn up on the abdomen; pulse 90, regular and soft; surface cool; unable to swallow. With an assistant to keep her still, we applied the poles of an ordinary electro-magnetic battery, the one to the occiput, the other to the sacrum. A violent convulsive movement immediately occurred, and she escaped from the assistant. We soon, however, repeated the application, and held her securely; in four minutes we had the satisfaction of seeing the muscles relax, and in seven minutes she exclaimed, "*You are burning my back.*" She had never before spoken a single word during the paroxysms, which, as above stated, lasted from three to four hours. From the time she spoke until the present (19th May), she has never had the slightest return of the paroxysms, and is in high health. We continued the use of the battery on the afternoon of the 10th an hour, and repeated it for the same length of time, beginning at 4 P. M. on the 11th of April.

[This is evidently an instance of hysteria, depending probably on the attempt to establish the menstrual nusus, and as such, was precisely a case in which magnetism offers peculiar advantages. It is instructive, also, as exhibiting the injurious treatment of the routine practitioner, to which she had been a victim previously to her being seen by Dr. Byrne.]

ART. 15.—*Treatment of Tic Douloureux by injecting the Antrum Maxillare with a Solution of Lunar Caustic.* By Dr. HULLIHEN.

(*American Journal of Dental Science*, Oct. 1848.)

[We give a condensed account of this novel mode of treating a most rebellious disease, but do not profess to form any opinion as to its feasibility; our readers are invited to form their own conclusions. The author says that—]

Having observed that certain diseased conditions of the antrum maxillare induced tic douloureux, and that in all such cases the painful paroxysms could be greatly soothed or aggravated by the kind of injection thrown into the antrum—that of all the injections so employed, none had so distinct, so powerful, and so extensive an effect as lunar caustic; and knowing, too, that lunar caustic had been sometimes applied over the eyelids and brows with the happiest effect in allaying pain and undue irritability of the eyes, I determined to try it in the treatment of true tic douloureux. I say *true* tic douloureux, a rare disease, emanating from some local cause either about the head or neck, in contradistinction to a *spurious* tic douloureux of the face, a complaint which is so frequently met with, and comparatively so easily cured; but a complaint always induced by debility, malaria, or other causes of a character purely constitutional.

[It is not the author's aim to treat of the causes or pathology of tic douloureux; he contents himself with giving the simple details of several cases, of which our space will allow us to reproduce only the two following:—]

In the summer of 1841, a gentleman consulted the author for an unusually severe attack of tic. His age was forty, his occupation was that of a farmer, and his health good. The length of time he had been affected with the disease I neglected to note down. The nerves involved were the first and slightly the second branch of the fifth pair. The paroxysms came on from touching the affected side—often while talking or eating—and very frequently without being provoked by either of the causes just named. The attacks were electric in their character, accompanied by sensations of a *tic*—a symptom never present, I believe, in ordinary neuralgia. The paroxysms were of about one minute's duration, occurring many times every day and night; and they were gradually becoming more exquisitely painful.

Treatment.—I extracted the first molar tooth, it being decayed, and perforated the antrum by way of an alveolar cell which led directly to this cavity. The antrum was free from disease. Upon touching the outer wall of the cavity with the end of a probe, particularly if the end of the probe were dragged over the surface, paroxysms of pain were instantly induced. After the bleeding subsided, I washed out the antrum with a syringe, first with warm water, and then with cold, and so alternately, until I was convinced that warm water, in this particular case, had much agency in bringing on a paroxysm, and cold water as great an agency in allaying it. After the blood was thoroughly cleansed from the antrum, I threw into it, with a glass syringe, a solution of lunar caustic (twenty-five grains to the ounce of water), and there retained it for a few minutes, by plugging up the hole made in the jaw. The caustic had but little effect in any way. The next morning I increased the strength of the solution to fifty grains of caustic to the ounce of water. After taking up in the syringe about as much solution as the antrum would hold—the patient being directed to hold his head in a horizontal position, with the affected side down—it was injected into the antrum, and the opening stopped as before. In a few minutes the patient complained, first of a slight pain on the top of his head—then all over the side of his head—then over the eye, and finally in the antrum. The plug was now removed, and the solution suffered to escape into his mouth, his mouth being effectually protected by holding in it a solution of common salt.

By this time the effects of the treatment were visible. The veins of the affected side, particularly along the temple, were distended and elevated to a remarkable extent; tears streamed from the eye; the flow of saliva was unusual; indeed, every secreting vessel of that side of the head appeared to be ex-

cited in the highest possible degree; yet the patient complained of but little pain, and that pain of a dull, benumbing description. The scalp, and indeed the whole side of the head upon which the first and second branches of the fifth pair of nerves are distributed, was sore to the touch; but the patient was entirely free from every symptom of *tic douloureux*. He was now allowed to return home, and directed to wash out the antrum with cold water once a day—to use the caustic injection once a week—and to return again in three or four weeks; which he did, and reported that he never had the slightest return of the disease. I saw him about five months since, and he still remained well.

It was not until October 20th, 1846, that I had another opportunity of testing the good effects of lunar caustic in a case of *tic douloureux*. At that time Mr. Johnston, of this city, brought to me an old gentleman, who stated that he had been very sorely afflicted with *tic douloureux* for upwards of seven years; during which time he had been almost constantly under medical treatment, without any perceptible relief. The patient was about sixty years old, in excellent health, of slender form, intelligent, and very communicative. He stated that in early life he had been a soldier; after which a surveyor—then a merchant—then a farmer—and then a victim to *tic douloureux*. He stated that he had always enjoyed good health; that the disease came upon him without any known cause; that the first symptom was an unpleasant twitching of his eyelid—then of the muscles of his face—then of a dull pain over his eye—and then, suddenly, the disease in full force. The paroxysms were electric in their character, usually preceded by and ending in numerous sensations of a *tic*. They were from half a minute to a minute and a half in duration, and were repeated from fifty to a hundred times every twenty-four hours. The nerves most implicated were the first and second branches of the fifth pair; the second was more affected than the first, and I was not certain but that the third branch was involved also.

Treatment.—I perforated the floor of the antrum, and after examining into the condition of the cavity, and finding it free from disease, I washed it out well, first with cold and then with warm water. Both appeared to provoke paroxysms of pain, yet the warm water caused more severe paroxysms than the cold. I then injected the antrum with a solution of lunar caustic, of fifty grains to the ounce of water, after the same manner described in the first case. However, before I could get the hole well plugged in the jaw, a most fearful paroxysm of the disease ensued, which was soon succeeded by another, and another, until the poor old man was nearly exhausted. In about ten minutes this fearful condition of things subsided. I then increased the strength of the injection to sixty grains to the ounce, and threw a portion of it into the antrum, and there retained it by a plug. Three or four slight paroxysms of pain took place within the first five minutes; then the patient began to complain of a sensation of heat in the antrum—then of pain on the top of the head, and along the temple and over the eye, particularly over the eye—and, finally, in the cheek. The veins along the temple were distended, as in the former case; the secretion of tears small—the conjunctiva of a bright pink colour, and the flow of saliva not much increased. The plug was now withdrawn, and the solution allowed to run out, its effects being neutralized in the mouth by the use of salt and water. The patient now complained of a dull, heavy, and distressing pain all over the affected side, and occasionally a slight sharp pain, something like *tic douloureux*; but this was all that was felt of the disease. The next day the pain on the side of his head had subsided; there was much soreness of the scalp and temple, some congestion of the conjunctiva, a slight swelling of the cheek, and every now and then a very mild sensation of his old complaint. The next day the soreness of that side of his head was better; he had slept well, and ate without producing any return of his disease, except an occasional darting pain through the cheek. On the fourth day the patient was still getting better; matter had begun to be discharged from the antrum. On the fifth day, still improving; has every now and then a sharp pain in his cheek, just in front of his ear, but of a comparatively mild character. I now injected his antrum with a solution of sixty grains to the ounce of water. Again he had pain all over the side of his head; again the conjunctiva became flushed, and the scalp sore to

the touch; but every symptom of disease had vanished. He left town the following day, with a swelled cheek, a sore scalp, but with a light heart. He was directed to wash out the antrum every day, with water and a little soap—to use the caustic solution once a week—and to let me hear from him in two or three weeks. At the end of two months, his son called to say that his father still remained well; that he had occasional twitchings of the muscles of the affected side of his head, but no pain.

SECT. III.—DISEASES OF THE RESPIRATORY SYSTEM.

ART. 16.—*Œdematous Laryngitis successfully treated by Scarification of the Glottis and Epiglottis.* By Dr. GORDON BUCK, jun.

(*Transactions of the American Medical Association*, vol. i.)

Several of these severe cases having presented themselves in the New York Hospital in the winter of 1847–8, the author determined to try the effects of scarifying the tumefied epiglottis and glottis, as a means of saving life. The following is the mode of performing the operation:—

The patient being seated on a chair, with his head thrown back and supported by an assistant, he is directed to keep his mouth as wide open as possible. The forefinger of the left hand is then to be introduced at the right corner of the mouth, and passed down over the tongue till it encounters the epiglottis. Little difficulty is generally experienced in carrying the finger above and behind the epiglottis, so as to overlap it and press it forward towards the base of the tongue.

Thus placed, the finger serves as a sure guide to the instrument. The knife, which is represented in the accompanying woodcut (p. 53), is to be conducted with its concavity downward, along the finger, till its point reaches the fingernail; by elevating the handle so as to depress the point an inch, its cutting extremity is inserted between the lips of the glottis. It is then to be rotated to either side, giving it a cutting motion while in the act of withdrawing it. This may be repeated two or three times without removing the finger. The epiglottis, and the tumefied surfaces between it and the glottis, may be scarified still more easily with the same instrument, or by scissors curved flatwise.

Though a disagreeable sense of suffocation and choking is caused by the operation, the patient speedily recovers from it. In every instance, the operation was repeated three or four times.

The author reports five cases in illustration of his practice, one of which we transcribe.

Edward Bird, æt. 50, was admitted with symptoms of laryngitis. The same morning he had complained for the first time of sore throat, attended with hoarseness and dyspnoea. The epiglottis was felt with the finger to be swollen, thickened, and convoluted. The pulse was full and strong, though he had been bled to sixteen ounces. Calomel and antimony had been given without relief.

Before resorting to scarification, several of the author's colleagues explored the parts, and satisfied themselves of their condition. The patient being seated upon a chair and his head supported, the edges of the glottis were scarified as well as the epiglottis, and repeated two or three times at the interval of a few seconds. Slight hemorrhage followed, and the patient expressed himself better. The same evening, six leeches were applied over the larynx, and nitrate of silver on either side of the neck externally. Two-grain doses of calomel and the eighth of a grain of tartar emetic were also given every two hours.

The *second day*, patient the same. Pulse, 120, full and strong. To go on. At six o'clock the same day, the paroxysms of dyspnoea having increased, the scarifications were repeated.

Third day.—Patient worse, and paroxysms of dyspnoea and choking aggravated. The epiglottis is felt to be more swollen. At 3 P. M. scarification with the curved knife repeated. At 6 o'clock tracheotomy was proposed, but refused by the patient. An attack of erysipelas now supervened, on the subsidence of

which the patient's condition was much improved, and, on the sixth day, the voice resumed its natural tone.

[Upon this and the other accompanying cases, the author remarks as follows:—]

The operation now under consideration aims at the removal of the obstruction itself in the most direct manner, and the results already obtained may well encourage the hope that this formidable disease will not hereafter bear such fatal sway as the annals of medical science show it to have done heretofore.

In respect to the difficulties of the operation, it may be remarked that those which exist on the side of the patient are—1st. Irritation and disturbance of the affected parts themselves, produced by the presence of the finger and instrument. These, as has already been incidentally remarked in the report of the cases, have not been so great as to prevent the accomplishment of the operation, or deter from its repetition. The patient soon recovers from them, and in every instance two or three repetitions, at intervals of three or four minutes, have been submitted to. In one instance only (case 3) did the patient require urging. 2d. As this disease sometimes supervenes in the progress of phlegmonous inflammation affecting the parotid or submaxillary regions, and attended with rigidity of the lower jaw, the difficulty of separating the jaw might be insurmountable. In this case tracheotomy would be the only resource. The most suitable means of overcoming the obstacle in such a case, would be the cautious use of wooden wedges to pry apart the jaws.

The difficulties on the part of the operator, where the requisite knowledge of the anatomical relations of the parts and the necessary skill are possessed, are by no means formidable.

The dangers of the operation are either of producing suffocation by exciting spasm, or of inflicting injury with the knife on neighbouring parts. In regard to the first, more extensive experience alone can decide the question. In cases 3 and 4, it was submitted to a severe test; at all events, the danger from this source can scarcely be equal to that of the disease itself.

In regard to the danger of wounding neighbouring parts, the action of the knife is limited on either side by the sides of the thyroid cartilage, which shut in the glottis and render access to the great vessels impracticable. In the swollen state of the lining membrane, the scarifications, unless carried to an undue extent, would not be likely to involve anything beyond the membrane itself.

It will be for future experience to determine in what particular conditions of this disease the operation may be inapplicable. The advantages of its early application are shown in cases 1 and 2; and in case 3, the patient's obstinate refusal to submit to tracheotomy compelled our sole reliance on scarifications, and that in circumstances of the most imminent danger from impending suffocation.

Although oedema of the glottis is a disease confined to adult age, yet an analogous condition of the larynx is accidentally produced in children by their attempting to drink scalding water from the spout of a tea-kettle. Numerous cases of this accident have been reported, in which death took place from suffocation, with symptoms of croup, and in which the edges of the glottis and



epiglottis were found swollen and blistered. A few of these cases have been saved by tracheotomy. Scarifications would seem to be equally applicable for their relief, and Dr. Marshall Hall, in 1821 (*Med-Chir. Trans.*, vol. xii.), after relating four cases of this accident, observes, in remarking on the treatment: "If the suffocation were imminent, I should not hesitate to propose laryngotomy or tracheotomy, and the former would appear to reach below the seat of the affection. But I now regret that I did not propose the scarification of the epiglottis and glottis, so as to evacuate the blisters." The suggestion of this distinguished physician does not appear to have been carried into effect, or even noticed by those who have treated of this subject since it was made. Dr. Jameson, in his '*Observations on Œdema of the glottis from attempts to swallow boiling water,*' makes no allusion to it.

Lisfranc has proposed making punctures (*mouchetures*) of the swellings in œdema of the glottis, of which Cruveilhier says (*Dict. De Méd. et de Chir. Pratique*, tome ii. p. 41, 1834), "I doubt whether this little operation has ever been performed." Mr. Ryland (*A Treatise on the Diseases and Injuries of the Larynx and Trachea*, Philadelphia, 1838, p. 51) says of this method, and of that of M. Thuillier, which consists in making pressure from time to time, by means of the finger, upon the distended lips of the glottis, to promote the absorption of the effused serum, "both plans are fantastic, very difficult, if not impossible of accomplishment, and more likely to increase than diminish the existing mischief.

Mr. Busk, at a meeting of the Royal Med. and Chir. Society, March 9, 1847 (*London Lancet*, March, 1847), related "two cases treated successfully by making a great number of minute punctures on the back of the tongue, the uvula, and pharynx, with a sharp-pointed bistoury, and then repeating them every half hour for two or three hours."

These are the only methods of treatment analogous to the one under consideration that have been hitherto proposed by others, so far as my researches have ascertained.

ART. 17.—*On the Physical Signs of Pleurisy, and its Consequences.*

By EDWARD J. SHEARMAN, M. D.

(*Transactions of the Provincial Medical and Surgical Association*, 1848.)

[The following remarks form part of Dr. Shearman's admirable retrospective address to the members of the Provincial Medical and Surgical Association, at its last anniversary meeting. After describing the pathological anatomy of the disease in question, and its results in adhesion and effusion, as well as its association with phthisis and with emphysema, he proceeds to consider the physical diagnosis of these lesions as follows:—]

What are the physical diagnostic signs, then—first, of the pleura being coated with coagulable lymph? secondly, of the existence of fluid in the pleural cavity? thirdly, of pneumothorax and emphysema?

1. The immobility of the affected side; the pleural friction-sound, produced by the rubbing together of the dry or inflamed and roughened surfaces. This is a creaking sound, of an interrupted character, occurring in a series of three or four jerks; it may often be felt by placing the hand upon the corresponding surfaces of the thorax. This sound is sometimes not heard at all, because it is not listened for at the time it exists; for as soon as either the membranes unite, or are separated by fluid, this sound ceases. A little dullness on percussion at the base of the lung generally attends this friction-sound, and the dullness comes on sooner than in pneumonia.

2. When fluid exists, there will not only be, first, dullness on percussion; but, secondly, a proportional diminution of the intensity of the respiratory murmur: it will be heard farther off than usual, because the lung is gradually pressed towards the spinal column, or upwards and inwards towards its roots. The fluid will press both on the lung and bronchial tubes, and there will be, thirdly, bronchial respiration, bronchial voice or ægophony, and bronchial cough. When the pleura is quite full of fluid, the lung will admit no air; that side of the chest will be motionless, larger than the opposite side, with its

intercostal muscles bulged out, and neither bronchial nor any other breath-sound will be heard. This is sufficient to distinguish it from pneumonic consolidation. The bronchial voice of ægophony is produced by the rapid undulations communicated to the effused fluid by the vibrations of the bronchi and condensed pulmonary tissue, and is generally heard best at the inferior angle of the scapula, when the patient is sitting up in a chair. Fourthly, the total loss of vocal vibration; and fifthly, the respiratory murmur is puerile in the sound side.

But these are precisely the physical signs of pneumonia. How are we to prove they are occasioned by pleurisy? First, unless there be previous adhesion of the pleura to prevent, the fluid will always be the most dependent part of the chest, in whatever situation the patient is placed; therefore, by changing his position, we find the upper part of the chest resonant, and the under dull. It is seldom there is so much hepatization, or so much tubercular disease, as to make the lungs sound dull all over, from the apex to the base; so that when a pleural cavity is quite full, the perfect uniform dullness will be nearly a positive sign.

When the intercostal muscles are bulged out, the affected side, if measured with a tape, will be found from one to two inches larger than the sound one. Dr. Watson states a case of aneurism, where the whole pleural cavity was filled with clotted blood that was considered, by physical examination, to be pleurisy.

When the fluid has partly been absorbed, the diseased side measures less than the sound one. The effect of atmospheric pressure is sometimes so much as even to bend the vertebral column, and produce lateral curvature of the spine. In doubtful cases, the spirometer will materially aid our diagnosis.

3. In pneumothorax the air occupies the highest, and liquid (generally pus) the lowest, portion of the pleural cavity, in all positions. Percussion gives a remarkably hollow tympanitic sound at the top, and is immediately changed to a very dull sound below, which will be more marked on comparison with the other side. No respiratory murmur, nor vocal sound or resonance, can be heard through this air. When the patient breathes, speaks, or coughs, amphoric resonance is heard, and this is often succeeded by an echo, called metallic tinkling. Succession of the patient's body enables a liquid splashing to be heard, when the ear is close to the body, as well as metallic tinkling.

In emphysema the affected side is larger, remarkably tympanitic on percussion, without any natural respiratory murmur, but with a sibilant rhoncus in the place of the expiratory murmur, and there is emphysematous crackling.

The pathognomonic symptom of the decubitus is worthy of an observation. In the first instance, the patient cannot lie on the affected side, because of the pain on pressure; he lies, therefore, on the sound side, or on his back. At a more advanced period, when the effusion is greater, he cannot lie on his sound side, because the compression of the sound lung, from the fluid of the diseased side above and the bed below, prevents him using his respiratory organs freely; he, therefore, lies on the diseased side, or in a diagonal posture, between his back and the diseased side.

Pleurisy may be mistaken for pleurodynia, neuralgia, rheumatism of the intercostal muscles, hepatitis, and pneumonia.

In pleurodynia there is no heat of the skin, and the pulse, although increased in frequency, yet is wanting in that hardness which accompanies pleurisy. There is also the absence of the short and embarrassed respiration, friction-sound, and dullness on percussion, and sometimes there is a rumbling sound produced by the vibrating contraction of the muscles, which is kept up by the sensation of pain; and it generally occurs in a condition of the system the very opposite of inflammatory, as after considerable losses of blood, or when the blood is impoverished, as in chlorotic females.

Neuralgia, in addition to the absence of fever and the physical signs of pleurisy, generally occurs in paroxysms, and is often ushered in by a sensation of numbness, creeping, or pricking, in the affected part, and its cessation may be preceded by itching; it generally attacks the intercostal nerve running between the eighth and ninth ribs.

In rheumatism of the intercostal muscles there is seldom any fever; there is

absence of the physical signs of pleurisy, and aggravation of the pain on pressure or movement of the muscles, and sometimes a sense of coldness in the affected part.

In addition to the physical signs of pleurisy, the distinction between inflammation of the pleura and of the liver, may be made by the absence of increase of pain on pressure over the hepatic region, as well as that sallowness of countenance which generally attends hepatic affections, and the absence of the shoulder pain in pleurisy. The use of Sibson's chest-measurer, and the spirometer, will also assist in distinguishing these diseases, as the loss of respiratory motion in the side affected by pleurisy will be well marked.

Hydrothorax arises either from the effect of disease of the heart, or from a low kind of inflammation of the pleura, not terminating in adhesion, or as the effect of chronic pleurisy. I lately attended a case of the former description, where seven pints of fluid were found after death. The effusion into the pleura has no offensive smell unless atmospheric air has been admitted, either through an aperture in the walls of the chest, a pulmonary fistula leading to the trachea, or a hole in the œsophagus communicating with the trachea.

Having thus endeavoured to point out what auscultatory signs are to be depended upon in recognizing pleurisy and its effects, I will conversely give a few facts, lately advanced by Dr. Thomas Addison, to show how fallacious some of them are, if exclusively taken.

The permanent effects of old pleurisy on both sides of the chest, bronchitis, hepatization, hypertrophy, and dilatation of the heart, abdominal effusion, enlarged liver and spleen, alter the state of the thoracic viscera so much as frequently to mislead the auscultator, and these cases require the greatest care in their exploration.

When pleurisy occurs low down in the angle between the ribs and diaphragm anteriorly (the paraphrenitis of the ancients), many days may elapse before either pleuritic rubbing, or any other pleuritic sign, can be heard; and percussion is fallacious on account of the proximity of the liver and stomach. From the same cause, when the effusion is purely serous, and it gravitates to the floor of the cavity, unless it be very abundant, it may escape detection.

Physical examination cannot always distinguish the rub and crepitation of pleurisy in the lowest part of the chest, from similar sounds resulting from recent adhesions between the liver and diaphragm or abdominal parietes; and sometimes croaking bronchial rhonchi very much resemble the rubbing sound.

The friction-sound of pericarditis may sometimes be mistaken for pleurisy; but by attentively listening, the *double* or *to-and-fro* friction of pericarditis will be heard.

A lung rendered solid by inflammation, does not distend the cavity and obliterate the intercostal depressions, nor displace the heart. Pleuritic effusion does. The bulged side can be measured in pleurisy.

A solid lung transmits the voice, and if any air remain, the respiratory murmur also; but these phenomena are wanting when the pleura is distended by fluid.

In a lung solidified by hepatization, the vibration of the voice is augmented; but it is prevented altogether by imprisoned fluid. When the pitch of the patient's voice is too high or too feeble, this test becomes useless.

A patient having one solid lung, is indifferent as to posture; but when one lung is full of fluid, he lies on or towards the diseased side.

ART. 18.—*On the Cachectic Asthma of the Aged.* By Dr. G. E. DAY.

(*Treatise on the Diseases of Old Age*, p. 111.)

Under the term cachectic asthma, Dr. Day describes an affection which has been almost entirely overlooked by British practitioners, and is excited by impurities retained in the blood. There is an attempt on the part of nature to make the bronchial mucous membrane eliminate the effete matter in the form of expectoration.

Asthma is very often associated with a deficient or morbid action of the kidneys. Dr. Day, who has seen many instances of this affection, terms it *urinous*

asthma; after the example of Schonlein, Canstatt, and other continental writers. The following are the most important points in reference to this form of asthma:—

It seldom occurs before the sixtieth year, and is most common after seventy. On examining a patient thus affected, we usually found a general suppression of the secretions, the skin being dry and rough, and the bowels torpid. The urine is scanty, turbid, of a reddish brown colour, and so acrid as to produce a sensation of scalding of the urethra, and to give rise to frequent calls to pass water. There is usually deep-seated lumbar pain. The skin is the seat of intolerable itching, and presents the appearance of prurigo, which, like the asthma, depends upon the retention of the urinary constituents in the blood. The eyelids are red and discharge an acrid humour, and ulcers often form on the lower extremities. There are evidences of the endeavour of the system to throw off the morbid matter; they are, however, not sufficient for the proposed end, and the bronchial membrane is called to aid in the work of purification. The paroxysm of asthma usually occurs an hour or two before midnight, and lasts some hours, terminating in a copious expectoration, having frequently a strong urinous odour.

[Another cachectic form of asthma, described by Dr. Day, is one connected with the gouty diathesis.]

This sometimes comes on as early as the fiftieth year in persons who suffer from anomalous gout. The premonitory signs are those of a fit of regular gout, such as feelings of general discomfort, tightness of the chest, loss of appetite, acid eructations, &c. The patient is led by these symptoms to expect a fit of gout, but instead of this he is seized, usually about midnight, with a feeling of intense suffocation. The face assumes a livid appearance, and is generally swollen; the jugular veins are tense, mucus tinged with blood dribbles from the lips. The paroxysm lasts for some hours, and terminates by expectoration.

[The treatment of these forms of asthma is conducted, mainly, by the attempt to re-establish the urinary secretion by diuretics, warm baths, &c.]

ART. 19.—*On the Use and Administration of Cod-Liver Oil in Pulmonary Consumption.* By C. J. B. WILLIAMS, M. D. F. R. S., &c.

(*London Journal of Medicine*, Jan. 1849.)

In the important paper which we proceed to analyze, the author arranges the results of his inquiries under three heads. 1. General results of the use of cod-liver oil in phthisis. 2. Its mode of operation. 3. Its preparation and administration.

1. The author states that he has prescribed the oil in above 400 cases of tubercular disease of the lungs in its different stages, of which he has notes of 234. Out of this number the oil disagreed and was discontinued in only nine. In nineteen it appeared to do no good, while in the large proportion of 206 out of 234, its use was followed by marked and unequivocal improvement; this improvement varying from a temporary retardation of the progress of the disease, up to a more or less complete restoration to apparent health.

The most numerous cases of lasting improvement were observed in the second stage, in which the tubercular deposit is beginning to soften, the common physical signs being defective movement and breath-sound, with marked dullness and muco-crepitation under the clavicle, or above the scapula, with more decided bronchophony and bronchial breathing towards the seat of the lungs. The effect of the oil, in most of these cases, amounting to near 100, is stated as remarkable. Even in a few days the cough was mitigated, the expectoration diminished in quantity, the night-sweats ceased, the pulse became slower, and the appetite and strength were gradually improved. The first change manifest in the physical signs was generally a diminution and gradual cessation of the crepitus, the breath-sound becoming drier and clearer; but the dullness and tubular character of the breath and voice-sounds were much more persistent, and rarely exhibited a marked decrease until after several weeks' use of the remedy in conjunction with regular counter-irritation. The author has, however, convinced himself, in several cases, that consolidations have been removed,

though in old standing cases the restoration has not been perfect. He states that, even where the health has been completely re-established, the physical signs of consolidation will often persist, and then, if unaccompanied by decided dullness on percussion, he has learned not to contraindicate recovery, as they appear to depend on puckering of the pulmonary texture, and other changes due to inflammatory deposit.

In cases in the first stage of the disease, the author has used the oil with equally satisfactory results, but of these he cannot speak with equal precision, as many of them were only seen once.

The most striking advantage from the oil he finds to be in the third stage, even when far advanced, where consumption has not only excavated the lungs, but is rapidly wasting the body, with copious purulent expectoration, night-sweats, colliquative diarrhoea, &c. Of the power of the remedy in this stage, he quotes several instructive and encouraging cases. The total number of such cases amounts to sixty-two, in thirty-four of which the improvement is known to have continued up to a recent period. Eleven, after temporary improvement, relapsed, and terminated fatally. The author further observes: "The results above stated give to cod-liver oil, even as a tardative or palliative of phthisis, a rank far above any agent hitherto recommended, whether medicinal or regimenal. I have made trials of several other medicines of reputed utility in this disease, but their utility and harmlessness fall so far short of those of cod-liver oil, that I regard them now chiefly as subsidiary means, and the more likely to be useful in proportion as they facilitate the continuance of this superior agent."

2. *Mode of action of cod-liver oil.*—The author does not think it necessary to discuss the question whether the oil owes its efficacy to the iodine contained in it. To suppose that the minute proportion of this ingredient could be the curative agent, would savour of the absurdities of homœopathy; and besides, most of the patients had taken iodine, in one form or other, previously to taking the oil.

It is commonly admitted, the author remarks, that the oil possesses the power of fattening those who take it for any length of time; but this nourishing influence extends beyond the mere deposition of fat. The muscular strength is sensibly increased, and the colour of the cheeks is improved. There is much reason, he thinks, to believe that the oil proves serviceable by supplying the fat-molecules, which appear to be essential to healthy nutrition in forming the nuclei of the primary cells; thus supplying a fat which is capable of being readily absorbed and converted into a better plasma, as well as more readily conveyed by the blood to the vicinity of the tubercular deposits, the absorption of which it favours by dissolving the irregularly concreted fat of which the masses are partly composed.

One of the most remarkable effects of the oil, in the second and third stages of the disease, and in other forms of scrofulous disease, with extensive suppuration, is the speedy removal of the sweats and symptoms of hectic. This the author thinks it does by diminishing the unhealthy suppuration which is excited around the tubercle. The author's view of suppuration is, that it consists of a further oxidation of the exudation-corpuscle, and he therefore explains the use of the oil in its offering a combustible material, and thus checking the process of oxidation of the tissues.

3. *Preparation and administration.*—The author repudiates the idea held by the Germans, that the brown oil is the most efficacious. He prescribes the pale oil, as free from taste and smell as it can be procured. To obtain this, he advises that the livers of the fish should be obtained as fresh as possible, the pale plump livers being preferred. These should be pounded into a pulp, and mixed with water of 120° and filtered; after standing, the oil to be decanted, cooled to 50°, and again filtered. The process is to be quickly performed, and in closed vessels. The author begins with a teaspoonful, gradually increasing to a table-spoonful, floating on some aromatic water. He advises it to be taken about an hour and a half after each meal.

In conclusion, he repeats that cod-liver oil is more beneficial in the treatment of pulmonary consumption than any agent, medicinal or dietetic, that has yet been employed.

SECT. IV.—DISEASES OF THE CIRCULATORY SYSTEM.

ART. 20.—*Table of the Pulses in Diseases of the Heart.*

1. *Simple hypertrophy of left ventricle*: Strong and prolonged.

2. *Hypertrophy with dilatation*: Strong, prolonged, and large.

The above pulses, when accelerated, become *hard*. They may become *weak and small*, by any cause which enfeebles the heart's action.

3. *Hypertrophy with contraction*: Tense, but small.

4. *Dilatation with hypertrophy*: The former predominating. Large and prolonged, but soft, often accelerated, "bounding."

5. *Dilatation with attenuation*: Large and weak; small in the latter stages.

6. *Softening*: Small, weak, more or less irregular, unequal, and intermittent.

7. *Free regurgitation through the aortic valves*: Eminently "jerking," the arteries unfilled.

8. *Contraction of the aortic valves*: Strength little impaired, unless the contraction be considerable. Regularity generally unaffected.

9. *Great contraction of, or free regurgitation through the mitral valves*: Small, weak, irregular, intermittent, and unequal.

10. *Polypus formed before death*: *Endocarditis with polypus*, and pericarditis with effusion—all cause suddenly a small, weak, irregular, and intermittent pulse.

(*Hope on Diseases of the Heart*, 4th edition.)

ART. 21.—*On the Signs of Diseased Heart afforded to the Hand laid over the Præcordia.* By PROF. JAKSCH.

(*Medical Gazette*, Nov. 17, 1848.)

The purring tremor (*frémissement cataire*) perceived in certain affections of the heart, is felt most distinctly when the flat hand is laid over the part of the præcordium corresponding to the point of the heart's impulse. When this peculiar tremor is dependent upon narrowing of the left auriculo-ventricular opening, it is perceived at the period corresponding to the diastole of the heart. Dr. Jaksch, however, states that he has observed it in cases of insufficiency of the aortic valves. For determining to which of these morbid conditions the tremor during the diastole is in any case due, he points out the following diagnostic signs: If it occurs when the impulse is feeble, the heart broad (as indicated by increased lateral dullness on percussion), and the second sound increased, it is dependent on narrowing of the left auriculo-ventricular opening; if, on the other hand, it coincides with an increased impulse, an hypertrophied left ventricle (as indicated by a tremulous impulse and increased dullness, in the longitudinal direction, on percussion), and with absence of the second sound of the heart, it may be considered as most probably dependent upon imperfection of the aortic valves. In cases in which a contracted left auriculo-ventricular opening coincides with imperfect aortic valves, a purring tremor accompanying the diastole of the heart is sometimes observed coincidently with an increased impulse. The diagnosis of such cases is rendered sufficiently easy by the increased second sound audible in the pulmonary artery, the enlargement of the heart in its longitudinal and transverse direction, and the absence of the second sound from the aorta and the carotid arteries.

It is not uncommon, especially after pericarditis, that peculiar tremors or vibrations are produced within the pericardium, and may give to the hand laid over the region of the heart a sensation of grating, scraping, creaking, or even buzzing. The existence of previous pericarditis, the absence of change of form of the heart, the want of rhythm, and the variableness of the morbid sound, preclude much risk of error in the diagnosis.

By means of the hand laid over the præcordium, Professor Jaksch has perceived vibrations synchronous with the systole of the heart. 1. In cases of narrowing of the aorta from rigid semilunar valves. 2. In cases of dilatation, thinning, and relaxation of the portion of the aorta, immediately above the

semilunar valve. 3. In aneurismal dilatation of the ascending aorta, accompanied by roughness of the internal surface of the vessel. 4. In some cases of true aneurism of the ascending aorta, with roughness of the orifice or internal surface of the same. 5. In a case in which numerous tendinous bands are stretched across the left ventricle near the orifice of the aorta. 6. In a case of perforation of the inner division of the bicuspid valve. 7. In efficiency of the bicuspid valve, in consequence of rupture of some of the tendinous cords. 8. In narrowing of the ascending aorta. The sounds dependent upon disease of the aorta are perceived most distinctly when the hand is placed in the middle of the sternum, and is thence carried upwards and to the right, in the direction of the aorta.

SECT. V.—DISEASES OF VARIABLE, OR UNCERTAIN SEAT.

ART. 22.—*On the Treatment of Acute Rheumatism.* By Dr. BENTLY TODD.

(*Medical Gazette*, Oct. 4, 1848.)

[The author considers that the most instructive way to discuss the treatment of this disease, will be to enumerate the various methods which have been proposed for this purpose, and to point out the reasons for rejecting some and for adopting others. As many as seven different plans may be specified, of which he places last that which he is in the habit of following, and which he calls *the treatment by elimination*.]

1. The first plan is that by venesection. It was thought by many, and still, unfortunately, is thought by some, that when called to a case of rheumatic fever, they have only to open a vein, and, if they succeed in taking away a sufficient quantity of blood, which in many instances, they think should be little short of two or three pints, that they may by this large and rapid abstraction of blood cut short the disease, and convert a malady which ordinarily lasts some weeks into one of a few days' duration. Frequently, not content with one large bleeding, they will pursue the practice, and bleed a second, a third, or a fourth time, at short intervals, and in large quantities.

The great advocate of this practice at the present day is Bouillaud, of Paris. Now, if you look through the record of his cases as given in his book, you will see that his patients, although some of the more urgent symptoms are apparently very quickly overcome, yet linger on in the hospital for a considerable period, suffering much from chronic rheumatism, and exhibiting an extreme anæmia, from which they but slowly, if ever, recover. This plan of treatment has been advocated by some English physicians, and among others, by the celebrated Sydenham, who, however, in the latter part of his career, abandoned, or greatly moderated it, and, I am happy to say, the number of its supporters at present is very small. It is a practice from the adoption of which I would most earnestly dissuade you, as having the support neither of reason nor of experience, and as being fraught with the most dangerous consequences to your patients.

I could tell you of several cases in which a fatal result had been clearly produced by the adoption of this method of treatment, which most probably would have recovered completely had they been let alone, or treated by a milder method. One case in particular made a deep impression upon me. The subject of the case was a young and strong man, of great promise in his profession; he was seized with rheumatic fever, and one of the knee-joints was severely affected. On a previous occasion, a similar attack seemed to yield readily to a very large bleeding, and the patient recovered. His medical attendant, naturally enough, determined on the second attack to adopt the same treatment, which had seemed so successful before, and accordingly bled him very largely, and applied leeches to the inflamed joint. The result was violent delirium; and death by exhaustion in the course of eight-and-forty hours.

I would go so far as to say, that, even were we certain that venesection would produce the desired effect on the leading symptoms of the disease, we should

yet hesitate ere we make use of a remedy which, in the *general* effect it may have, is most uncertain and most perilous; in one case you may relieve your patient; in another you may send him to a premature grave; or in the same individual, in the first attack, you may obtain complete relief by this method, and in a second attack you may kill him.

2. The second plan of treatment is that by moderate venesection and diaphoretics. This may be called an "expectant" treatment, but it is more than that as regards the venesection; while in other respects it sufficiently merits the name. The advocate of such a plan will say—"when I am called in to a case of rheumatic fever, I think it advisable to commence the treatment by abstracting about ten or twelve ounces of blood, and then to give sudorifics and purgatives." Now, the objection which I entertain to this treatment is this, that the routine abstraction of blood is in all cases unnecessary, and in many injurious, and that the other part of the treatment can exercise little or no influence on the disease. The tendency of rheumatic fever is to impoverish the blood, especially as regards that highly important portion of it, its colouring matter. All that bleeding really effects is to relieve fever for a few hours (which, however, may quickly return), while it undoubtedly aids the bleaching power of the rheumatic matter, and, as I have observed in several cases, it increases much the tendency to a chronic rheumatic state, and consequently prolongs the convalescence. The bleeding in rheumatic fever is unnecessary, and that its omission diminishes rather than increases the tendency to certain internal inflammations, I am so convinced, that for several years I have not abstracted blood in any way, in a single case of the disease. The treatment of rheumatic fever by the abstraction of blood, even in moderate quantity, but more especially in large quantity, appears to me to increase the danger of internal effusions into the pericardium and the pleura, and also into the synovial sacs of the joints. Under this treatment we meet with the most violent and troublesome cases of delirium, which, under other methods, either does not occur, or is developed in a form sufficiently easily controlled. I am very much disposed to believe that this treatment predisposes to pericarditis or endocarditis; and that, if these affections occur in a case in which venesection had been frequently practiced, they are much less tractable than when you have to deal with them in a patient who has not suffered from loss of blood.

3. A third plan is that by mercury. Some recommend that calomel and opium should be freely administered until salivation is produced. The great objection to this treatment is, that it is an attempt to cure one fever by setting up another, and, in some respects, a worse: even supposing the original disease succumbs, your patient comes out of his rheumatic fever with loose teeth, ulcerated gums, and all the painful and offensive concomitants of pytalism. Now, I say that, under such circumstances, the remedy is nearly as bad as the disease; and, moreover, it does not in the least guard the patient against what may be termed the accidents of his malady—those severe internal inflammations—pericarditis, endocarditis, pneumonia, pleuritis, peritonitis. I have more than once seen pericardial inflammation supervene while the patient was in a state of salivation; and when we consider how differently various persons are affected by a mercurial course, and how much some suffer from it, even if given in small quantity, I hold that it is highly inexpedient to adopt this plan of treatment, except in cases where some serious internal inflammations have already set in, which it is desirable to combat by the antiphlogistic powers of mercury.

4. Another plan of cure which has been proposed is by colchicum and by guaiacum. These drugs, but especially colchicum, have long been considered to possess a specific influence over rheumatic and gouty affections; and it has been laid down that the rheumatic condition will be subdued in just such proportion as you get your patient under the influence of the colchicum, somewhat in the same way as quinine exercises a specific influence on ague. Now, I think it requires only two or three cases to a candid mind to prove the fallacy of this doctrine: I myself have frequently given this remedy the fairest trials, but I could never discover any effect from it sufficient to entitle it to the character of a specific. That it is capable of exerting a remarkable influence on gout

I do not deny ; but even this must be admitted with considerable limitation, and it is certainly far from exercising any similar or analogous influence in rheumatism, whether acute or chronic. The effect of guaiacum has also been supposed to be specific, and similar to that of colchicum ; but I am equally indisposed to give it that character. Both these medicines, when given in large doses, purge, and if given in such doses I have no doubt they may do some good, on the principle of eliminating the morbid material, by the alimentary canal ; but unless you give them in such doses as to produce colliquative purging, you may do but little towards cutting short the disease ; and if you do give them in these large doses, you produce a degree of prostration and debility which is sometimes more dangerous than the disease ; and you leave your patient to linger through a tedious convalescence. Colchicum given in small doses produces no good effect in rheumatic fever according to my experience ; on the contrary, I fear that in some cases it has a prejudicial influence on the nervous system, making it more irritable and susceptible of impressions, and rendering the patient more obnoxious to the various accidents that are liable to occur in the course of the disease.

5. *Treatment by Opium.*—This plan of treatment has been lately revived by a very able physician, Dr. Corrigan, of Dublin. It has much to recommend it, and, on the whole, you will find it extremely serviceable in practice ; but I do not recommend it alone : its great value consists in relieving suffering, and soothing the nervous system, while it promotes diaphoresis. The opium is given in large and frequently-repeated doses, care being taken not to produce too much narcotism ; but upon this point in general, there is not much need for fear, as there seems to be in the generality of patients a remarkable tolerance of opium. Our patient, Elizabeth Stocking, to whose case I have already referred, was ordered on the 23d a grain of opium to be given every three hours, in addition to half a grain of the muriate of morphia, which she had previously been taking at night : in forty eight hours she thus took sixteen grains of opium exclusive of the morphia, yet her pupils were not at all contracted, nor was she in any degree narcotized. The effect upon her has been most beneficial : her nervous excitement has been calmed down, and her pain materially relieved. It will not, however, do to employ this plan alone—it should be conjoined with other treatment. I do not recommend it by itself.

6. A sixth plan of treatment proposed long ago by Dr. Haygarth, consists in giving bark in large doses, for which more recently the less bulky sulphate of quinine has been substituted. Now just imagine the state in which the pathology of a disease must be, when measures so completely at the opposite extremes of our therapeutical resources are advocated for it—as venesection to the amount of two or three pints on the one hand, and large doses of quinine on the other : some would even give as much as five or ten grains two or three times a day. Now I have tried both methods of treatment, and I approve of neither ; but if I were tied down to one or other of them, I should not hesitate to choose that by bark. In cases where the sweating is colliquative, and the urine copious and pale, with abundant precipitates of *pule* lithates, I have seen great good done rapidly by the use of quinine ; but I am not prepared to advise you to adopt this treatment from the beginning, because it tends to check the secretions, and it may favour the development of internal inflammations.

7. The seventh and last mode of treatment that I shall mention to you, is that which you have seen me adopt frequently in this hospital, namely, *the treatment by elimination*. I give it this name, in order that you may keep well in view its main object—to promote the elimination of morbid matter by the various emunctories, and also that you may bear in mind the view of the pathology of the disease upon which it is founded.

It is probable that the *materies morbi* in rheumatic fever is lactic acid. We know that the natural emunctory of this is the skin ; many chemists maintain that it will also escape by the kidneys, and if it ever does so, perhaps this is more likely during rheumatic fever than at any other time ; and again, since vitiated digestion is apt to produce it in undue quantity, and it therefore exists abundantly in the stomach, there is every reason to think a certain proportion of it may be carried off through the alimentary canal. The indications

are, therefore, to promote the action of the skin, the kidneys, and the bowels; to use antacid remedies; and to give large quantities of fluid for the free dilution of the materies morbi, and in aid of the drainage by diaphoresis and diuresis.

The best way to promote the action of the skin is by opium, especially if you combine with it nitre and ipecacuanha. For this purpose I use a compound, which resembles the original Dover's powder, which contains nitrate of potass instead of sulphate of potass, as prescribed in the *Pharmacopœia* compound ipecacuan powder. Our usual prescription is one grain of opium, one grain of ipecacuanha, and five grains of nitre: this must be given every two, three, or four hours, according to the urgency of the symptoms and the need the patient has for opium. This drug quiets the nervous system, and procures sleep, and with the ipecacuan promotes sweating; while the nitre acts upon the kidneys, and the ipecacuan may exercise some influence on the liver. Next, you must give purgatives to such an extent as to keep the bowels in a loose state, but not carrying the purgatives so far as to weaken your patient, or worry him by obliging him to be frequently moved in or out of bed. You will find it advantageous to use an alkaline purgative; and there cannot be a better medicine for this purpose than our hospital nostrum—the white mixture containing magnesia and sulphate of magnesia. Sometimes you may give the potassio-tartrate of antimony with advantage, but, as it is a depressing remedy, it is not always advisable to use it.

But, while we are thus alkalizing our patient, and giving internally sudorifics and diaphoretics, is it advisable to attend to the state of the joints? The diligent physician will tell you by all means to attack at once: but there is such a thing as “*nimium diligentiae*” in physic as well as in any other matters. Many will say, the best thing you can do is to leech a painful and swollen joint. I formerly tried it extensively, but for some time past I have not done so, as I generally found it either a useless or an injurious practice. You may apply leeches, and in a short time after you will find the pain and swelling removed, and you may be disposed to say to yourself, “here is a proof of their efficacy;” but wait twenty-four hours, and then you will generally find the pain and swelling as bad as ever, and the joint in just the same condition as before. Now apply leeches, and you will probably fail to give any relief. You have by the first application relieved the pain for a time, but you have produced no permanent good,—you have rendered the disease more erratic, and less amenable to subsequent treatment. Frequently, when you leech a joint, the pain and swelling subside, but its fellow becomes swollen: leech it, and the swelling and pain return to the original joint. Nothing is more important to avoid, nor more troublesome, if not prevented, than the erratic tendency of the rheumatic state. It will fly from joint to joint, and in pursuing it with leeches you only drive it out of one joint into another. I am satisfied that leeching the joints favours this erratic tendency.

I am not prepared, however, to advise you to neglect the local treatment of the joints. When they are much swollen and painful, you may give great ease to your patient by enveloping them in a large quantity of the soft carded cotton—what is commonly called *cotton wool*. Over this you must wrap a sheet of oiled silk, so as to cover in the wool completely, taking care to have no part of it exposed. By this air-tight covering, you keep the joints in a complete vapour bath; and when you come to remove the oiled silk and wool, after twelve or twenty-four hours, you find the wool completely saturated with moisture, which generally is strongly acid. You have seen this in Elizabeth Stocking's case: we find the plan so generally useful, that it is adopted in the hospital in nearly every case. It affords great relief, supports and keeps the limb steady, and at the same time promotes sweating. I may just mention that this plan of enveloping the joint in wool and oiled silk, is often very beneficial in gout.

In a few, and only a very few, cases, I have found the pain aggravated by the heat which this mode of wrapping generates; and in cases where it is desirable to keep down the sweating, it is not advantageous to carry this plan beyond a day or two.

You perceive that all the means employed in this mode of treatment tend to

elimination, and to the relief of pain—the opiate sudorific—the nitre acting on the kidneys—the purgatives on the mucous membrane of the bowels—the wool on the joints.

During this treatment, while you allow your patient the liberal use of simple diluents, you must give a fair amount of nourishment from the first; and I think this may be best supplied by a small quantity of good beef-tea, given frequently throughout the day.

I have many more remarks to make on other points in the treatment of rheumatic fever; but must content myself now with having given you an outline of the eliminatory mode of treatment, and reserve my further observations for another lecture.

ART. 23.—*Rheumatic Gout treated by Lemon-juice.* By Dr. OWEN REES.

(*Medical Gazette*, Jan. 26, 1849.)

The following case is reported:—

Eliza Allwright, a young girl, aged 18, of a sanguine temperament, with auburn hair, and of a fair complexion, admitted into Miriam ward to-day (December 8), as a patient under Dr. Rees. She is suffering from rheumatic gout in all her joints, and is unable to move; the slightest attempt at motion giving her the most severe pain. She states she is a housemaid at Islington. About a month ago she caught a severe cold, and was confined to her bed for a week. She recovered from this, and considered herself perfectly well; but about a week since was suddenly seized with shivering and nausea, and experienced severe pain down her leg; the pain commencing at the hips. Her ankles also swelled considerably. In a day or two she felt great pain in her knees, which also became much swollen: and she entirely lost the use of her legs. Yesterday, December 7, she felt pain in her shoulders, which gradually extended down her arms to her wrists, and she then lost the use of both arms. The elbow and wrist-joints are exquisitely painful, but are not very much swollen. She perspires profusely, and is very flushed and feverish. Pulse about 120, and full. Her tongue is covered with a thick, moist, white fur. Dr. Rees ordered pulv. rhei. c. calomel, ℥j statim; succi limonis, ℥ss; mist. camphoræ, ℥j; ter in die.

9th.—Appears a little better: perspires less, and feels less pain. Swellings not diminished. She can move one arm very slightly. Pulse 75, less full.

11th.—Feels less pain.

12th.—Can raise her legs in bed, and also use her arms. The pain has considerably abated. To continue the medicine.

13th.—Much better. Pain entirely gone. Is able to get in and out of bed without assistance. Her bowels not having been relieved for two days, she was ordered pulv. rhei c. calomel, ℥j statim. Pulse weak, but natural.

14th.—Still improving. Feels no pain. Swelling much abated. Urine acid: in quantity, only about one pint in twenty-four hours; sp. gr. 1028. To continue the same medicine.

16th.—Complains now of great weakness; has not felt the slightest pain since the 13th: her appetite is good, and she sleeps well. Pergat. Urine, sp. gr. 1020.

18th.—Improving. Expresses a desire to get up, and to have some meat. Pergat. Urine, sp. gr. 1025.

20th.—Feels perfectly well, with the exception of slight weakness. Urine contains a large amount of lithates.

22d.—To discontinue the lemon-juice, and to take mist. ferri c. ter in die. Pil. aloes c. myrrhâ, gr. x, o. n.

23d.—Complains of a little pain (probably owing to change of weather).

24th.—Pain gone; feels herself getting stronger.

25th and 27th.—Feels quite well, and talks of going out soon.

With regard to the urine, it has uniformly been scanty in quantity throughout the whole case, and also has constantly been acid.

The author remarks that—

It is principally owing to the very surprising effects which he has observed

from the use of lemon-juice in the treatment of rheumatic gout, that he has been induced to notice this case. He has been now for several months in the habit of prescribing the remedy, with marked and rapid benefit.

Among the out-patients at Guy's Hospital, he has met with several prominent examples of cure, notwithstanding that such instances are necessarily derived from a class of persons who are by no means able to assist our treatment by following out our directions either as regards diet or regimen. The early relief from pain was such, that, had any one unacquainted with the remedy in use watched the progress of the case, they would almost inevitably have concluded that sedatives had been resorted to.

He first had recourse to lemon-juice for the cure of rheumatic gout, from a belief that the vegetable acids, probably owing to the excessive quantity of oxygen entering into their composition, contributed to effect the transformation of the tissues generally, and because lemon-juice was the most palatable form in which such class of remedies could be applied. Moreover, it appeared to him probable that the super-citrate contained in the juice, though in small quantity, was a form of alkaline salt likely to contribute to the alkalinity of the blood in its transformations; knowing as we do, from the examination of the urine, that such organic compounds become converted into carbonates during digestion and circulation.

SECT. VI.—DISEASES OF THE URINARY SYSTEM.

ART. 24.—*On the Diagnosis and Treatment of Pyelitis Calculosa, or Stone in the Kidney.* By M. RAYER. Translated by Dr. BRYAN.

(*Philadelphia Medical Examiner*, Oct. Nov. 1848.)

Under this title M. Rayer has published an elaborate memoir, which has been translated entire by Dr. Bryan, of Philadelphia. From its great length we are unable to present our readers with an abstract of the whole paper, but are compelled most unwillingly to lay before them only certain portions, though these, it may be stated, are the most important, in a practical point of view.

Pyelitis is the term given to inflammation of the pelvis and calices of the kidney, and may be both acute and chronic, idiopathic, and excited by the presence of foreign bodies, as calculi. The author enters minutely into the anatomical characters of the disease, which may briefly be stated to be more or less infective of the mucous membrane of the pelvis and calices, dilatation of its cavities, softening and ulcerations, the presence of mucus and pus, and, in a chronic form, a peculiar white colour in the membrane. Among the sequences are renal fistula and peri-nephral abscess, dilatation and distortion of the calices, and atrophy of the true renal tissue; calculous deposit taking the form of the pelvis and calices, &c. &c.

The author then proceeds to observe, that pyelitis varies according to its causes, and allows of division into two classes. The first comprises those cases which arise from mechanical causes, as calculi, worms, acephalocysts, or by retention of urine. In the second class he arranges pyelitis from specific inflammation from the irritation of cantharides, and those which originate during the existence of pestilential (*charbonneuses*) diseases, as scarlatina, puerperal fever, &c. Of these, the most interesting is *pyelitis calculosa*, which forms the subject of the present paper. After an account of the manner in which calculous deposit accumulates in the pelvis and calices of the kidney, the form it assumes, &c., the author directs attention to the symptoms, which usually commence in those of renal colic; and in the succeeding stages are those of renal suppuration and abscess.

He then speaks of the diagnosis of the affection in the following words:—

Diagnosis.—Calculous pyelitis in its various forms may be confounded with a great number of other diseases. Many symptoms of inflammation of the pelvis are, indeed, observed in other affections; thus, a mucous or purulent secretion takes place in inflammation of the ureter, bladder, and urethra; the

pain in the loins exists in lumbago, in nephralgia, &c.; finally, if a pain in the lumbar region be one of the signs of a collection of pus in the dilated pelvis and calices, other lumbar tumours have neither the same origin nor the same seat.

1st. *Lumbar pain* is experienced in different species of acute nephritis, in hydatids of the kidney and of the ureter, in nephritic colic, in retention of urine without inflammation, in lumbago, in certain diseases of the spine, in psoriasis, in aneurisms of the descending aorta, in gestation, in certain diseases of the uterus and its appendages, in some cases of partial peritonitis, and in inflammation of the cellular tissue outside of the peritoneum.

2d. *In nephritis* the pain is often so much like that in calculous nephritis, that we must resort to other characters to distinguish the affection: in pyelitis calculosa the pain is generally more acute. In doubtful cases we must have reference to the presence or absence of mucous or purulent matters in the urine, and to the existence of a tumour in the lumbar region. If these two symptoms are wanting, we may suspect the existence of pyelitis calculosa, when there is a pain in the lumbar region, with fever, exhibiting exacerbations, with an accession of symptoms similar to those commonly observed in nephritic colic.

3d. Pyelitis calculosa with nephritic colic are distinguished from nephralgia by the fact, that in the first the pain is often much more acute and more intolerable, and that it ceases instantly after the emission of a gravel, or on its passage into the bladder from the ureter.

4th. In the case of retention of urine, complete or incomplete, it is not uncommon to hear patients complain of a pain in one or both lumbar regions; pains so severe as to induce the belief in the existence of nephritis or of pyelitis calculosa, and yet after death no appearance of inflammation will be seen; the kidneys, more generally pale than red, appear healthy, with the exception of a slight atrophy of the cones. In this case death occurs suddenly from cerebral derangement.

5th. In lumbago the pain commonly affects both sides at once, and generally with the same degree of severity; it is always exasperated by the movements of the body; it is generally without fever, and sometimes preceded by other muscular or arthritic pains; in pyelitis the pain is experienced nearly always on one side alone (cases of double pyelitis calculosa are rare), or at least with unequal intensity in the right and left sides; it is augmented by contraction of the lumbar muscles, but this augmentation is not to be compared to the pain occasioned by contractions of the muscles in lumbago. Nevertheless it is always easy to distinguish between the pain of lumbar rheumatism and a renal pain. The opinion expressed by Boerhaave on the nature of a pain experienced by him in the region of the kidneys appears to me to be correct.

6th. In caries of the lumbar vertebra, the pain is dull, and generally much less intense than in pyelitis calculosa. The caries is distinguished also by the deformity of the lumbar vertebræ, and often by abscess from congestion, either towards the fold of the groin or towards the buttocks; finally, by a paraplegia, complete or incomplete; sometimes without mucus or purulent mucus in the urine. At the same time paraplegia often induces retention of urine, which produces chronic inflammation of the bladder, and sometimes of the ureters and of the pelvis: complications in which we find the characters of caries of the vertebræ and of pyelitis.

7th. In psoriasis, the patient feels a dull pain in the side affected; this pain becomes afterwards more acute, extending from the lumbar vertebræ to the pubis, and the body is bent forwards and towards the diseased side; the movements of the thigh are very painful; and it is very difficult, not to say impossible, to straighten the back when the body is once bent. After this the glands of the groin become enlarged; then a collection of pus is formed under the peritoneum and substance of the muscle, often with swelling of the limb. When this collection of pus is considerable, it forms sometimes a tumour on one side of the bony pelvis, easily detected by the touch and by percussion. We may confound these purulent deposits with inflamed psoas muscle, with calculous pyelitis, and they may open into the bladder.

8th. Aneurisms of the aorta have been seen to produce lumbar pains similar

to those in the kidneys. Occasionally, the aneurismal tumour has been developed on the side of the abdominal cavity without altering the vertebral column (a case in which it is extremely difficult to detect it); and again it has been found on the lumbar vertebræ, and forming a pulsating tumour in this region.

9th. Certain diseases of the ovaries, partial peritonitis in the lumbar region, may simulate disease of the kidney, and especially calculous pyelitis, particularly if they co-exist with an acute or chronic cystitis; it is very easy to be deceived under these circumstances.

10th. The same remark may with greater reason be made in reference to inflammation of the extra-peritoneal cellular tissue, in the vicinity of the kidney. This affection may be confounded with pyelitis, when the urine contains no pus, or when there is retention of the matter secreted. On the other hand, when the lining membrane of the bladder is more or less inflamed, the presence of globules of pus in the urine may induce a belief in the existence of inflammation of the pelvis, in the case of peri-nephritis complicated with cystitis. In this last case the diagnosis is never clear.

The *secretion* and *excretion* of pus, or of purulent mucus in the urinary passages, may exist not only in pyelitis but also in other diseases, either of the urinary apparatus or of other organs. Pus from the extra-peritoneal cellular tissue, the psoas muscle, the ovary, &c., either in the pelvis, in the ureter, or in the bladder; the urine becomes charged with pus from acute or chronic cystitis, and simulates disease of the kidney, as also disease of the kidney may simulate one of the bladder.

We have said that, when there is neither pain nor swelling in the region of the kidney, the examination of the urine will enable us to distinguish between pyelitis and cystitis; that in inflammation of the pelvis and calices, there is dysuria with a deposit of true pus; that in catarrh of the bladder the urine is glairy and viscous. This remark is true in a certain number of cases; but I have already observed that the glairy appearance may be caused in renal pus by the presence of a certain amount of alkali in the urine, and that the pus of cystitis is not always glairy.

The presence of mucus or pus in the urine, unaccompanied with pain in the bladder, is not characteristic of pyelitis calculosa. To suppose that pus comes from the pelvis or calices, occupied by one or more calculi, there must have existed more or less pain in the upper region of the kidneys.

It is pretended that pus from the kidney is evacuated after the urine; it is certain that it is evacuated, mixed with the urine, but in greater quantities at the end of the emission, whether it come from the bladder, ureters, or kidney.

I will not now speak of the diagnosis of pyelitis calculosa from critical and metastatic excretions of pus with the urine: I will speak of this in another place.

It is more difficult (on account of the rarity of the case) to demonstrate the true seat of suppuration, when the pus, produced by pyelitis or an extra-renal abscess, passes under Poupart's ligament on the buttock or from the vicinity of the anus. Sometimes the discharges, gravel, generally urates, mixed with the purulent matters which are discharged by the fistula, decide the character of the lesion.

The discharge of purulent fluids, with the odour of urine, or containing urea or uric acid, is pathognomonic of renal abscess in the loins.

We have seen pus from an inflamed pelvis discharged with the stools, in consequence of fistulous communication between the dilated pelvis and the duodenum or the ascending colon, or even with the rectum when the kidney is misplaced.

[After stating the value of the symptoms as diagnostic of pyelitis, the author proceeds to state the distinctive characters of renal tumours formed by purulent accumulation. The various tumours with which renal abscess may be confounded, are stated to be those which arise from enlargement of the spleen, liver, or gall-bladder; other diseases of the kidneys, as cancer, &c., extra-renal abscess, abscess from caries of the vertebræ, fæcal abscess and accumulation, &c. The diagnosis of these is thus laid down:—]

1. Of all the tumours which may be confounded with those produced by an

accumulation of pus in the pelvis, the *hydro-nephritic* are, without doubt, those nearest, both from their form, their situation, and from the fluctuation felt throughout their extent. In the two cases, the tumour formed by the enlarged kidney is usually nodular, fluctuating, dull on percussion, and accompanied by an enlargement of the lumbar region. But the tumours formed by the accumulation of pus in the cavity of the pelvis or calices, are the seat of more or less acute pain at one time or other; they are often accompanied by febrile action; and if they are indolent, become painful on pressure or movement of the body. In hydro-nephrosis, on the other hand, the tumour is indolent, and only inconvenient on account of its size. Finally, when the communication between the pouch formed by the distended kidney and the ureter is not completely interrupted, the urine in the pyelitic tumour is purulent and opaque, while in the hydro-nephritic case it is commonly transparent or only obscured by mucus.

2. It is difficult to distinguish a tumour formed of a purulent collection in the pelvis from abscesses situated in the cellular tissue surrounding the kidney, whether these abscesses supervene upon a contusion, or on the passage of pus or urine through renal fistulae following an inflammation of the pelvis or of the kidney. For the rest, it is to be observed, in a tumour formed by a collection of pus in the cavity of the pelvis, that the fluctuation is deeper in the lumbar region than that of an abscess about the kidney, and this is nearly always followed or accompanied by oedema of the subcutaneous tissue of the loins, which I have never seen in the former case unaccompanied by the latter; nearly always, abscesses situated between the posterior surface of the kidney and the lumbar muscles terminate by elevating the skin; and by the application of one hand on the anterior surface of the abdomen, and the other on the lumbar region, the fluctuation is more sensible than when the pus is only in the pelvis and calices. The passage of pus with the urine will decide the question, but even this sign is wanting when the passages are entirely obstructed.

3. It is more difficult to distinguish in the complex cases where there is at once pus in the pelvis and calices, and outside of the kidney. At the same time, after the formation of a purulent collection in the cavity of the pelvis, there occurs at a later period an acute pain in the back part of the tumour, a swelling under the skin; the succession of these symptoms will indicate *fistula renales* and an abscess of the kidney. But there are cases in which this order of succession of these accidents has not been observed, or the characteristic marks of the lumbar tumour are absent; here the diagnosis is uncertain, unless the patient have suffered retention of urine, bloody urine, or nephritic colics. In such a case, when once it is decided that the lumbar tumour is not formed of blood, the surest mode of making out the diagnosis clearly, and of preventing the collection of a fluid in the abdominal cavity, or at least the extension of the abscess, is to open the tumour. The character of the fluid from the tumour will clear away all doubt. A fetid odour, like that from stercoraceous abscess, may arise from purulent deposits around the kidney or colon without perforation of this intestine. On the other hand, if a stercoraceous odour does not exclude the idea of an abscess about the kidney, with or without communication with the interior of the pelvis, we must remember that purulent collections formed in the interior of the kidney opening externally, have in many cases no sensible urinary odour. Flakes perceived by the fingers in the absence do not necessarily authorize us to consider the contents as urinous. I have seen, indeed, tuberculous abscesses of this region present such filaments and a species of organic attritus. But if the diagnosis is not entirely satisfactory at the time of opening the abscess, the after-symptoms will make all clear.

4. In stercoraceous abscesses, even faecal matters pass out through the fistula; percussion and pressure on the colon favour their exit. Worms and solid food may pass out at the wound, &c.; pus is sometimes evacuated with the faeces at stool.

In extra-renal abscesses, without fistula, neither faecal matters nor urine pass through the wound. In purulent collections following pyelitis calculosa, urine, and sometimes one or more calculi, after the evacuation of pus, pass off.

5. Abscesses from congestion, supervening on caries of the vertebral column, or on tubercular affection of the spine, may be distinguished from distension of

the kidney by pus, inasmuch as they are almost always accompanied with projections of the spinous processes of the vertebrae, and more frequently by paralysis of the inferior extremities, the bladder, and the rectum; besides, these kinds of abscesses, nearly always placed behind the ascending or descending colon, form in the abdomen a tumour nearer the vertebral column, more elongated, and directed obliquely from the spine towards the crural arch.

6. The serous or urinary cysts of the kidneys are rarely sufficiently numerous to imitate a collection of pus. But an acephalocystic cyst in the kidney may simulate a tumour produced by pus in the pelvis. The rubbing, proper to acephalocystic tumours, can be perceived in a small number of cases only, and the evacuation of the acephalocysts with the urine, a symptom which clears all doubt in the case, takes place only after the rupture of these cysts in the pelvis.

7. Tubercular kidneys are rarely large enough to simulate a purulent distension of the pelvis and kidney. The sensation of hardness presented by a kidney filled with tubercles, is very different from that of the renal pouches filled with pus. Ramollissement of the tubercular kidneys may be followed by a fusiform abscess toward the crural arch, not only difficult to distinguish from a purulent collection in the pelvis and vicinity of the kidney, but also from abscesses of congestion supervening on caries of the vertebrae.

8. The cancerous kidney may be so enlarged that it will weigh several pounds, and form a tumour in the lumbar region. This tumour may present an obscure fluctuation, while the greater part of it is composed of blood; but frequent hæmaturias with the external characteristics of cancerous diathesis, will point out the difference between these tumours and those composed of pus in the pelvis.

9. Aneurisms of the descending aorta have been known to simulate abscesses, or a purulent collection in the pelvis or calices. Pulsations synchronous with those of the pulse, a sensation of expansion perceived by the hand, and in a large number of cases the blowing-sound perceived on auscultation, will decide the case.

10. Enlargement of the spleen cannot be mistaken for the left kidney distended with pus. The tumour formed by the spleen is higher up in the region of the large extremities of the stomach, and projects more forward than renal tumours, and are found nearly always in persons who have long suffered with intermittent fevers.

11. A morbid enlargement of the left lobe of the liver or of its base, in consequence of a serous or sero-purulent deposit in the right pleura, may simulate a tumour formed of pus on the right kidney; and that the more readily, inasmuch as renal tumours always terminate by contracting adhesions to the liver.

12. Acephalocystic cysts of the liver may, to a certain extent, simulate a dilated right kidney adherent to the liver; but these tumours are more superficial, and are not accompanied with purulent or bloody urine. The same remark may be made in reference to tumours of the gall-bladder.

13. It is not always possible at the first examination to distinguish stercoraceous tumours, occasioned by the accumulation of feces in the ascending or descending colon, from renal tumours, when, as in the latter cases, the lumbar regions are dull on percussion, at least on the lateral portion; when these matters are collected in greater or lesser masses, a morbid sensibility of the intestine corresponding to the kidney is found; and when seen in individuals who have formerly had functional diseases of the urinary organs, there certainly is some uncertainty in forming the diagnosis. At the same time the tumours formed in the ascending or descending colon by obstructed fecal matters, are usually more cylindrical than renal tumours. On the right side, stercoraceous tumours often extend towards the cæcum, which sounds dull in some points, and sonorous in others, where it is distended with gas. On the left side, the fecal tumour extends to the iliac fossa, and towards the excavation of the pelvis. We often at the same time perceive that the transverse colon contains hard and solid feces: finally, fecal tumours disappear after free purgation.

[Having decided the presence of a renal abscess, the author remarks that, previously to devising any mode of treatment, it is necessary to discover the cause of the accumulation, or, in other words, to diagnose the nature of the disease of the urinary organs which has preceded. He then touches on the prognosis, remarking that it is generally not serious in its first stage, when one kidney alone is diseased; not so, however, in the subsequent stages. The danger is imminent where both are implicated, and varies in amount accordingly as the pus is freely discharged by urine, or is shut up in the kidney. It is influenced also by the duration and termination of renal fistulæ. The treatment is next considered.]

Treatment.—At the beginning of pyelitis, and in its first stage, the nephritic pains are relieved by warm baths and mucilaginous drinks, flaxseed tea, emulsions, small beer, and laudanum, &c.; by leeches, or better by cups applied to the painful part.

When the pain is very acute, and accompanied with suppression of urine, violent efforts at vomiting, with a tendency to syncope; either drinks, fomentations of assafoetida, or of the leaves of henbane, frictions of the tinctures of camphor and opium, or, better, fumigations of ether, will fulfil the first indication, that of relieving the spasms, nausea, and syncope.

Generally the symptoms cease after a few hours, either by the expulsion of the gravel or by its passage into the bladder. In such cases cold is sometimes useful; the patient being stripped, and his feet placed on the pavement. This practice has often been followed by the expulsion of the gravel or by the re-establishment of the urinary secretion. This expulsion is also favoured by the application of dry cups in the course of the ureter or on the perineum.

When the primary symptoms have yielded, if the gravel be not expelled, if the urine becomes charged with mucus, and the case takes on the characteristics of the second or third stage, we must explore the bladder: and if a small calculus is found, it should be extracted or broken, or its expulsion should be promoted by causing the patient to drink large quantities of spring or mineral water.

When gravel or calculi remain fixed in the calices, the arch of the pelvis, or the ureter, inflammatory symptoms thus induced may be relieved by warm baths, flaxseed tea, mineral water, or cupping.

Patients should abstain from sexual intercourse.

We may, for a time, by our treatment, relieve the inflammatory symptoms induced by the presence of gravel in the pelvis or calices; but they will always or nearly always remain charged with mucus or muco-pus. With the view of diminishing this secretion, oil of turpentine, in graduated doses, from twelve-drops to a drachm per diem, for an adult, has been used. I have also used the balsam of copaiba, the prepared turpentine, a ptisan of the buds of the fir tree, cubebs, &c., and I am bound to say in some cases the mucus or muco-pus has been diminished, the exacerbations of renal pain have also been less frequent. In fact, I think that the milk of anise and flaxseed water are the drinks which should habitually be used by the patient in a great majority of cases.

The second indication is the physico-chemical treatment of the renal gravel or calculi. Certain drinks which may be taken in large quantities, such as spring water, and the water of Contrexville, act mechanically in washing the calculi, carrying the smaller gravel through the ureters, and facilitating, by frequent emissions of urine, the expulsion of these bodies. The action of these drinks on the renal calculi, properly so called, is confined to so narrow a space, that, in spite of all that can be said, little is to be expected from them. We must not expect too much, either, from the chemical action of certain substances on gravel and calculi of different compositions. Doubtless experience teaches that alkaline drinks are generally favourable in the uric-acid calculi, and in pyelitis produced by concretions; but attentive observation on the action of these drinks, proves also that in gout (a pathological condition in which the uric-acid gravel and calculi are most commonly generated) the uric-acid deposit persists after many cures by alkaline waters; and that also the continued use of these is followed by serious inconvenience.

When it is found on examination of the urine that the gravel or calculi are

composed chiefly of the phosphates (at least in their exterior layers), chemistry, properly so called, presents to us but few resources. Generally, we advise the use of carbonic-acid drinks; but it is certain that these very seldom render phosphatic urine clear and transparent. For the rest, a considerable experience has taught me that an alkaline troubled urine is, if not always, at least nearly always, the result of chronic inflammation of the kidneys. We cannot expect to modify such urines by either vegetable or mineral acids; but may do it by the treatment recommended for chronic nephritis.

In the fourth stage of pyelitis calculosa, where urine and pus are collected, and accumulated in the pelvis and calices, in a manner to form a tumour in the lumbar region, we are directed in order to favour the passage of the pus through the ureter, to attempt the displacement of the calculus by pressure or concussion of the trunk, by long rides on horseback or in a carriage. But to suppose that a calculus can be displaced in this way, so as to allow of the passage of pus along the ureter, is to suppose that a foreign body produces no inflammation in the ureter in closing its diameter. On the other hand, pressure on the renal tumour when it is already painful, would be mischievous. By this treatment we should excite inflammation, and perhaps rupture the tumour into the cavity of the peritoneum, or into the extra-peritoneal cellular tissue.

When the pus passes in small quantity every day from the pelvis into the ureter and bladder, either along a furrow which the pus and urine have formed on the calculus, or between the calculus and the ureter—if the suppuration of the pelvis be not great, and does not produce hectic fever—if the renal tumour is not painful—if, on becoming full, it easily evacuates itself by the ureter—if the neighbouring parts, the peritoneum, the liver, the spleen, present no signs of present or past inflammation, if the patient has no diarrhoea, and is not materially debilitated, we should attempt to prevent the establishment of acute inflammation in the tumour or neighbouring parts, by rest, by the daily use of baths, by topical emollients, and by a well-regulated diet. We must combat by timely venesections proportioned to the intensity of the disease, and the strength of the patient, the inflammation as it is observed to occur in these tumours. Other circumstances, such as the advanced age of the patient, serious lesions of the bladder, of the uterus, &c., may reduce the treatment to one purely palliative.

But there are other conditions in which nephrotomy appears justifiable, or at least in which the opening of the pouch of the pelvis and calices, and the extra-renal cellular tumour, should not be deferred.

Thus, when such a tumour exists in an individual otherwise well organized—if it is habitually painful, in spite of the use of mucilaginous and oily drinks, bath and leeches—if the fever is continual or with nocturnal paroxysms—if the stomach and intestines are continually in a morbid condition—if the tumour continually painful, becomes more so from the least fatigue—if this exacerbation of the renal pain is frequent, and if it be accompanied with a complete suppression of purulent urine or with symptoms of inflammation of parts in the vicinity, the operation of nephrotomy, in spite of its difficulties and poor chances, should be resorted to. With greater reason, if fluctuation is perceptible in the lumbar region; if it is evident that pus has collected between the kidney and the sacro-lumbalis muscle; and with still greater reason, I would say, should a large opening be made without hesitation, after a secondary inflammation of the cellular tissue of this region, or what is much more common, one or more perforations of the kidney distended with pus.

Lafitte and Pouteau have opened abscesses under these circumstances. Not only did they succeed in relieving the patients, but the calculus which had induced the inflammation was found at the bottom of the fistula, and its extraction was followed by a complete cure.

[The mode of performing the operation is thus described:—]

First process.—Incision is, of all the operative processes, that which appears to me applicable to the greater number of cases.

I will suppose a case the most difficult and most rare, that in which it is determined to open the renal pouch without an abscess in the back of the kidney. The patient placed on his well side, the body slightly bent to induce a moderate projection in the lumbar region, the surgeon, after close examination of

the tumour, which is pressed backwards by the hand of an assistant placed on the front of the tumour, makes an incision from above downwards, three lines from the external margin of the sacro-lumbalis muscle, and parallel to the vertebral column. The first incision commences at the inferior margin of the lower rib, and extends to the crest of the ilium, and includes only the skin and cellular tissue beneath it. By successive incisions we approach the renal tumour, examining the wound with the finger, to detect the point where fluctuation is most evident. Having found this, a guarded bistoury is plunged into it, and a fresh incision made before the pus has time to escape. Then with a blunt director or female sound, we examine to see whether the calices and dilated pelvis have been penetrated, or whether we have only penetrated the abscess between the kidney and the square lumbar muscle. In this exploration great care should be observed by the surgeon. I have seen the division of a bridle or the cutting of a vessel followed by considerable hemorrhage.

If by the index-finger of one hand, passed to the bottom of the wound, while the other hand is applied to the anterior surface of the tumour, we perceive the fluctuation of a tumour between the hands, it will be evident that we have but penetrated an extra-renal tumour. Then, after carefully sponging out the wound, we should pass the bistoury again into the parts, and penetrate the pelvis and calices by an opening large enough to allow of the exit of pus and the extraction of the calculi.

That which is of most consequence in such a case is to obtain a large opening for the discharge of the pus. This done, the patient should not be fatigued by prolonged explorations, with the hope of extracting calculi. Their situation in the ureter, neck of the pelvis, or in an elongated calix, may make it difficult to discover them; otherwise, should the instrument in dividing the kidney strike one of the branches of the calculus (they are often branched), its extraction will be difficult or impossible after a painful exploration. It will be better to wait a few days before attempting the extraction or breaking of the calculi. We should, by proper dressings, preserve a large fistula, which afterwards permits of the extraction of foreign bodies from the kidney.

When the pus collects in the lumbar region just under the skin, the operation presents at first less difficulty. When there is evidently an extra-renal abscess connected with pyelitis calculosa or a renal fistula, the instrument may be propelled at first into the abscess. The opening is afterwards enlarged by a guarded bistoury. Generally, after the discharge of a large quantity of very fetid pus, the swelling disappears, and the finger introduced into the wound does not meet the renal tumour, but enters the pelvic opening. In this case it is useless to explore much for a calculus; it would be dangerous to introduce in the dark a bistoury into an absorbed and flattened kidney; but for all that the chances of cure are not lost. The kidney may afterwards swell at the bottom of the opening, the calculus may approach from the interior of the extra-renal abscess, and its extraction may be possible through the urinary opening, or by new incisions, as in a case reported by Lafitte.

Second process.—(Incision and puncture.) We are advised not to resort to incision, except to get as near to the renal or extra-renal abscess as possible; to cut only about one and a half inch long; to introduce a trocar into the wound until no resistance is met with; to withdraw the trocar, and allow the pus to pass off through the canula. It is also added, if the collection is very near the skin after withdrawing the canula, to enlarge the wound with a bistoury, but that it is better to retain the canula, or replace it by a gum-elastic sound, if the abscess is deep, and if we are not certain that the kidney has contracted adhesions with the neighbouring parts.

This process, less sure than that which consists in a methodic incision, through the parietes of the tumour, has the inconvenience of permitting but an incomplete exploration of the abscess and of the renal pouch.

Third process.—(Cauterization and incision.) The process has been applied in cases where the patient would not permit cutting instruments, and in other cases where the abscesses, renal and extra-renal, passed towards the groin or iliac region. This process has the advantage of producing the loss of a certain portion of skin, to induce adhesions around the incision, a useful circumstance

in the rare cases where it becomes necessary to cut into the neighbouring intestine, or even where we fear to enter into the cavity of the peritoneum.

This fear, however, need not exist, if we cut on the back part of the loins. Besides, cauterization, mild in its effects, is not applicable when the tumour is distended and painful, or when there is reason to fear a spontaneous opening into the peritoneum or into the intestine.

In other cases, incision is much to be preferred, where, for instance, infiltration of pus and urine has taken place into the extra-peritoneal cellular tissue, demanding prompt evacuation. Whether we have recourse to incision, cauterization, or the two modes combined, to open these abscesses, whether we extract or break up the calculus, it is necessary to keep the external opening patulous by means of a tent, in order to allow of the free exit of pus. If, after the operation, we can neither extract nor discover the calculus; and have no better success after seven days, it is best still to retain the fistula open. Calculi have been known to be discharged several years after the operation; and on the other hand, immediate healing of these fistulæ has been followed by serious symptoms, and even death.

In advising to open the tumours formed by a collection of pus in the cavity of the pelvis and calices, or by secondary abscesses about the kidney, I am convinced that these abscesses, unless they open externally spontaneously, are necessarily mortal. The operation itself presents no immediate dangers; the large vessels cannot be involved, especially when there is but one extra-renal abscess; there is no great hemorrhage to fear, at least in most cases, and no danger of involving the peritoneum or intestine. There is, in reality, against the operation only the difficulty of finding and extracting or breaking the calculi—difficulties which may be postponed, the operation being performed in order to evacuate the pus, and prevent a perforation of the pelvis and calices into the cavity of the peritoneum.

At present, when the structure of these tumours is well known, and the surgeon possesses instruments well calculated to seize and break these stones, the general objections to the operation are much diminished. We may also place in opposition to the unhappy results of the expectant practice, the remarkable and incontestable success obtained by Gaspard Baudin, Pouteau, Lafitte, Labatte, Saure, Roonhuysen, Colot, Ledran, and many other practitioners. Doubtless, in many of these cases, the operation was not exactly nephrotomy; in some, the calculus extracted was in an extra-renal abscess, following a fistula of the kidney; and in other cases, the calculus not being extracted at the time of the operation, it was found afterwards in the extra-renal abscess, an opening having been made in the pouch of the kidney.

But we must not pretend to perform the operation of nephrotomy—

1st. When we are certain that both kidneys are affected, and probably contain calculi, provided always that there are no extra-renal abscesses, the perforation of which should neither be neglected nor deferred.

2d. When the pus passes freely from the ureter to the bladder, when there is no renal tumour, nor immediate fears of fistula of the kidney, and especially when a favourable condition of the system leads us to suppose that the other kidney has assumed a proportionally increased activity.

3d. When there exist, at the same time, incurable lesions of the bladder, prostate, or of the intestines.

ART. 25.—*Clinical Lecture on Hæmaturia.* By R. B. TODD, M. D., F.R.S.

(*Medical Gazette*, Jan. 19, 1849.)

[The lecturer commences by observing, that the most important point of diagnosis is to determine whether the blood flows from the bladder or kidneys. This is sometimes difficult, but mostly it is sufficiently plain. If the blood is from the bladder, there is generally some local pain on pressure, or some disturbance in the vesical functions. The blood is apt to coagulate in the bladder, and impede micturition, and is not uniformly diffused through the urine as in renal hæmaturia. In evacuating the bladder, the first portions of urine are clear, the last more or less deeply tinged with blood. In renal hæmaturia,

we naturally expect to find some indication of renal disease, as pain in the loins; the blood is diffused through the urine; there are no clots, unless coagulation occurs in the ureter. Further aid is afforded by the microscope, which distinguishes the vesical from the renal epithelium.

After these preliminary remarks, the lecturer proceeds to narrate the following cases:—]

CASE I.—William Burrowes, æt. 23, was admitted on the 2d of June, labouring under rheumatic fever, and he is now (June 13) suffering under that disease, accompanied with severe pericarditis. Almost from the commencement of the rheumatic symptoms, he had passed blood in his urine; and when he was admitted his urine contained lithates in large quantity, in addition to the blood. The hemorrhage is gradually getting less, but not until the amount of blood lost has been very great. This I consider a very peculiar case—such a one, indeed, as is very rarely met with; and from the entire absence of vesical symptoms, I should not hesitate to say that the blood is from the kidney.

Now, what can be the cause of the hemorrhage in this instance? It is common to find, in the course of certain diseases dependent on the presence of morbid matters in the blood, more or less irritation of the glands through which the morbid matter is eliminated. The glands especially concerned in the elimination of the poison of rheumatic fever, are the kidneys, and, in the present case, the irritation has been extreme. As a result of it, a great afflux of blood to these organs takes place; and if this engorgement attains a certain intensity, the delicate vessels of the Malpighian bodies give way, and the blood escapes. Now we have many cases to prove that hæmaturia may be caused by irritation of the kidneys, excited by a substance which can reach the gland only through the blood. It is well known that turpentine and cantharides will both irritate the kidneys, when administered in large doses. Cantharides in small doses excites the kidneys, and increases the secretion of the urine, but the excessive excitement produced by large doses diminishes the flow of urine, the state of engorgement being too great to be compatible with the healthy functions of the organ; finally the vessels yield, and hemorrhage is the result. The effect of turpentine is the same. In the present case, lithic acid was the principal irritating agent, as was shown by the great abundance of lithates with which the urine was loaded. Sometimes oxalate of lime is formed, and is discharged with the lithates, as in the present case. Now oxalate of lime is a very irritating substance; and thus in the present case there were probably two sources of irritation—the lithic acid, and the oxalate of lime.

Treatment.—The principal indication in a case of this sort, is to promote active elimination by other emunctories besides the kidneys, and so to relieve these organs as much as possible. Thus it will be necessary to excite the action of the skin by diaphoretics; of the bowels by purgatives. Counter-irritation over the region of the kidneys may also be advantageously employed, or, if the patient is robust, a small cupping may be of use; but the strength of the patient, and the amount of the hemorrhage, should always be carefully taken into account prior to the application of this remedy. In this case we should not be justified in taking away blood, the patient being already greatly anæmiated. Sometimes, however, the rapid and sudden abstraction of a small quantity of blood will put a stop to the hemorrhage at once. And this acts, perhaps, on the principle of revulsion, or of counter-irritation. If you have recourse to counter-irritants, you must be careful to employ mustard, and to avoid turpentine and cantharides, the active principles of which, even when they are applied to the skin, are readily absorbed, and may exercise a pernicious influence on the urinary organs.

CASE II.—The second case is an instance of hæmaturia accompanying and forming the sequel to a very formidable disease—namely, inflammatory dropsy, or dropsy arising from inflammation of the kidney.

J. Pickford, æt. 40, a labourer, was admitted into the hospital on the 15th of May. His habits have been temperate, but he seems to have been getting into a bad state of health for some time past, as he had abscesses in his axilla and elsewhere a fortnight before his admission. Soon after these appeared œdema came on, first in his feet, but very soon afterwards in his upper extremities and

face: finally, the effusion took place in his scrotum and abdomen; and when he entered the hospital he was universally dropsical. One of his most prominent symptoms was scantiness of urine, which did not amount to more than from three to four ounces in twenty-four hours; of specific gravity 1020, very bloody, and nearly solidified by the addition of nitric acid; so small was the quantity of urine, that for two or three days I feared that there might be a total suppression of the secretion. However, on the 17th, the quantity began and continued to increase. Throughout this period it contained blood-corpuscles in great numbers; it was free from crystals of any kind, but contained a great number of fibrinous casts and renal epithelia, which left no doubt as to the blood having its source in the kidney.

The state of the kidneys in this case was probably owing to exposure to cold, but the attack cannot be traced to any particular instance of exposure. Cold, however, is the most common cause of this state of kidney, particularly if accompanied with a sudden suppression of sweat. Under these circumstances, some morbid material is retained in undue quantity in the blood, which irritates those organs through which it is eliminated, in a manner similar to that in which the morbid matter or poison of rheumatic fever is eliminated. In this way an irritated and inflamed state of the kidney is induced, which sometimes terminates in destructive disease of the organ.

The indications for treatment afforded by a case of this kind are very obvious: they are to restore the defective action of the skin—to soothe and relieve the irritation of the kidney—and to promote the elimination of water from the system.

We have in the hot-air bath a very valuable and ready means of exciting the action of the skin; this was consequently used with our patient from the beginning, and with the effect of promoting sweating while he was in the bath, as well as afterwards. After the hot-air bath has been frequently used, it produces a state of great debility; and this constitutes the chief difficulty in continuing it, in order to gain the greatest benefit from it. In this instance I carried into effect the Russian practice of dashing the patient with cold water immediately after he came out of the bath. The effect in this, as in other cases in which I have tried the plan, was certainly to give the patient a greater tolerance of the remedy, and, at the same time, by the reaction which succeeded the cold dash, to cause more active sweating on his return to bed.

With the hope of relieving the active congestion of the kidney, our patient was cupped over the loins, and several ounces of blood were taken away. I cannot say that he derived any benefit from this; and I must confess that in the treatment of similar cases, I have been more frequently disappointed than satisfied by topical bloodletting when the congestion of the kidney was active. I suspect that as long as the morbid matter is undergoing elimination through the kidney, and keeping up irritation of the gland, local bloodletting does little or no good. If a particle of dust gets into the eye, it excites conjunctival inflammation: you may leech the eye, day after day, until your patient is blanched, yet active congestion of the conjunctiva will continue; but remove the particle of dust, and the congestion will quickly subside. So with the kidney—you will do more to relieve the active congestion of which it is the seat, by opening new channels for the elimination of morbid matter, restoring and promoting the action of the skin, and increasing that of the bowels, than by the withdrawal of blood. But when these evacuations have been some time in action, and the congestion of the kidney has assumed a passive character, then the removal of blood by cupping, or by leeching, will often succeed in relieving the congestion.

The third indication, that of promoting the elimination of water from the system, is in some degree fulfilled by the sweating process: but the use of drastic and hydragogue purgatives supplies us with a very efficient means of getting away a considerable quantity of fluid through the intestinal canal. For the generality of cases you will find that which we employed in this case the most efficient remedy of this class—namely, the compound powder of jalap: it is a safe and sufficiently active medicine. In other instances elaterium may be

resorted to, but this is a much more violent remedy, and likewise very uncertain, owing to the difficulty in procuring it in a state of purity.

After the inflammatory condition of the kidney had been subdued by the means above detailed, and the organ began to resume its secreting activity, as shown by an increase in the quantity of urine, I administered the bitartrate of potass in diuretic doses. Now this would be apparently an unscientific plan of treatment, if this medicine be supposed to exercise any direct stimulating influence upon the kidneys. It is probable, however, that its diuretic powers may be due to some chemical or physical change which it produces in the blood, whereby the exosmose of its water through the Malpighian vessels is favoured. On this view no objection can exist to the employment of this remedy in inflammatory states of the kidney; and, indeed, experience tells so much in its favour, that we should not be justified in abstaining from employing it, merely on account of an hypothesis, which may or may not be well founded.

The renal hemorrhage in this case appears to have been up to this time, when the kidneys began to act more freely, due to the state of inflammation into which the gland was thrown; as the urine began to flow, the hemorrhage diminished considerably, but did not cease. On the 30th of May the secretion of urine was fairly re-established: on that day our patient passed two pints and twelve ounces of urine; on the 31st, two pints and eighteen ounces; on June 1st, three pints; after this the blood began to appear in the urine in increased quantity; and on the 6th of June the amount of urine passed fell to thirty ounces; on the 8th, to twenty-eight ounces. And now the hemorrhage returned with greater violence than ever, so much so that the urine seemed almost like pure blood, and contained not only multitudes of blood-corpuscles, but also the casts of uriniferous tubes, which we know are thrown off in the state of chronic nephritis. The condition of our patient at this time I viewed to be as follows: The active congestion of the kidneys had passed away; the acute stage had passed, and a chronic nephritic condition has been established. Moreover, he has fallen into a *hemorrhagic state*: he has become pale, his blood thin, and its nutritive powers no doubt greatly impaired, in consequence of which the vessels of the kidney have become weaker, and so less able to maintain their integrity in opposition to the pressure of their contents. In accordance with this view I determined now to alter the plan of treatment, to abandon all antiphlogistic diuretic remedies, and to have recourse to the use of stimulants, astringents, and support. I have, therefore, given him plenty of nutritious food and port wine, and have applied counter-irritation, by mustard poultices, and as a styptic he has taken gallic acid, in four-grain doses, three or four times a day. This treatment seems so far to have had a very good effect; the hemorrhage has decreased considerably, and is fast disappearing.

CASE III.—The third case is that of a boy named James Taylor, who is labouring under dropsy after scarlet fever. I call your attention to it now, merely because it affords another instance in which irritation of the kidney, from the presence of a poison in the circulation, some of which is being eliminated through the gland, gives rise to renal congestion and hemorrhage, and causes albumen to appear in the urine after scarlet fever, even after the red particles of the blood have ceased to show themselves in it. We now and then find it produced in the early stage of scarlet fever, even when the eruption is well out, but in general it does not appear until the desquamative stage, i. e. whilst the poison is passing out of the system. It is interesting to notice, that the cases in which the eruption has been trifling, and has not come out freely, are those in which the kidney is most apt to be affected, the work of elimination being thrown chiefly upon the kidney, and very little on the skin. Often the patient may have got well through the fever, and may have had a good convalescence: he goes out, is exposed to cold, and the next day dropsy appears, bringing in its train all the other symptoms of renal congestion.

Now the treatment in such cases, and which we have adopted in the case of the boy Taylor, is to be conducted on much the same principles as in the case which we have last considered—inflammatory dropsy: namely, to relieve irritation, and promote the elimination of water. I do not advise you to have recourse to early local bleeding in these cases; but if the congestion of the kidney

lingers after the greatest quantity of the poison may be supposed to have been eliminated, then you will often find benefit from the local detraction of blood in quantities so small as not to affect the general strength of the patient.

CASE IV.—The fourth instance of hæmaturia to which I shall refer is a very remarkable case: the hemorrhage appears to have been, in the first instance, vicarious of the menstrual discharge. The patient, 16 years of age, having never menstruated, was admitted on the 22d of May. About two months ago blood began to appear in the urine, without any apparent cause, and she experienced pains in her limbs, flying about from one part to another, supposed to be rheumatic: ever since this time she has continued passing blood in considerable quantities, so that the urine was quite of the colour of blood. By the loss of so much blood she has now become quite bleached. A venous murmur is very audible in the neck, but there is no bellows-sound over the base of the heart, or in the arteries; there are no vesical symptoms; the blood is uniformly mixed, and comes away equally at the commencement as at the termination of micturition.

At the period of life of this girl, when there has been suppression of the menstrual discharge, it is not uncommon to find in its place a periodical hemorrhage from some other part—either from the stomach, constituting hæmatemesis, or from the bowels, or, as in the present instance (and this is extremely rare), from the kidneys. It is difficult to say what determines the seat of the hemorrhage, why it should be in one place more than another; probably the most irritable or weakest organ would be the one most likely to suffer, and in the present instance it is not improbable that there may have been a large secretion of oxalate of lime, which may have been the primary source of irritation, and that which determined the locality of the hemorrhage: unfortunately the urine was not examined at the first, but yesterday, in looking at some through the microscope, I detected several octohedral crystals, which renders the above supposition not improbable. After the hemorrhage has been once established, it is easy to imagine how it should be kept up: the blood becomes poor, the vascular system weak, and thus a *general* hemorrhagic tendency is brought on, while the derangement that the kidney has suffered from the original attack, determines that organ as the seat of the continued bleeding. From the long duration of the hemorrhage in this case (two months), and the state of extreme debility to which the girl was reduced, I was anxious to improve the state of her blood as much as possible, and to check the hemorrhage. She was well supported, had a moderate allowance of port wine daily, and took astringents, lead, gallic acid, tannin, and the tincture of the sesquichloride of iron. The hemorrhage, however, showed no disposition to stop; it diminished for a little while, but returned again with as much intensity as before. She is now again taking gallic acid, in large and frequently repeated doses. If the hemorrhage does not soon cease, I intend to try some of the terebinthinate medicines, which are supposed to exercise a styptic influence. There is no doubt that they do act favourably as styptics in intestinal hemorrhage, but in renal hemorrhage their power is much less certain, and, moreover, they are very apt to excite irritation.

[The narration of the foregoing cases is followed by the subjoined clinical commentary.]

Of the four cases which I have now given you, you will see that in two—the first and third—the hemorrhage was due to irritation; in one, the second, it was first caused by irritation, and afterwards continued by the patient getting into a peculiar constitutional hemorrhagic state, called by some *passive hemorrhage*: the last case may be looked upon as purely *passive*, at least during the greater part of the duration of her malady. Now by the use of the term *passive* I must not be thought to admit a distinction which some pathologists draw, and to grant that hemorrhage may take place by the filtration of the blood through the coats of the capillaries without their rupture—such an hypothesis appears to me to be quite untenable; it is anatomically impossible for the blood-corpuscles to pass through the coats of the capillaries unless they had pores which would be visible by the microscope. But this is the distinction that I would make: in *active* hemorrhage, the rupture of the vessels arises from the presence of an inordinate quantity of blood in them; in *passive* hemorrhage, the same

rupture arises, not so much from the quantity of the blood as from its depraved quality, and the ill-nourished and weakened condition of the coats of the vessels themselves, which give way on the slightest pressure.

Thus we see there are two distinct ways in which renal hæmaturia may occur; and it is very important that the practitioner should clearly determine the real cause of the hemorrhage, as it is this diagnosis which must guide him in deciding what plan of treatment he will adopt.

I may here notice some other ways in which hæmaturia may be brought on:—Renal calculus is a very frequent cause of hemorrhage; but in this case the hemorrhage is dependent not on the *presence*, but on the *disturbance* and *movement* of the calculus: the calculus may exist for a long time, and yet no hemorrhage occur; but if the calculus be loosened by exercise or any other cause, blood is passed immediately; this may often be noticed in gouty patients. Again, a state of general cachexia, such as occurs in scurvy, may bring on hæmaturia, or such as results from an aguish state, brought on by the malaria of marshy districts; nothing is more prejudicial to hæmatosis, or the healthy elaboration of the blood, than the influence of the paludal poison. Sometimes a great development of the oxalic diathesis will give rise to renal hemorrhage; and Dr. Prout mentions that he met with several instances of this after our first visitation of cholera, when the oxalic diathesis prevailed extensively.

The nature of the treatment should be determined in a great measure by that of the *cause*. If it is irritation, that irritation should be subdued; the irritating agent should be diverted into other channels by the stimulation of the other emunctories, and counter-irritants should be used; but care should be taken not to use such as might in their constitutional effects irritate the kidneys. If a general tendency to hemorrhage is the cause, anti-hemorrhagics should be administered,—lead, tannin, gallic acid, are those from which you will find the greatest benefit; but tannin or gallic acid is, I think, by far the best. The worst case I ever met with, which was not unlike the second case I have mentioned to you to-day, I treated with tannin, and the man got perfectly well, with a sound kidney. In addition to the tannin, you may with great advantage give a little port wine. Gallic acid is very similar to tannin, both in its effects and in the freedom with which it may be administered. It may be given suspended in a little mucilage, or made into a pill with confection or extract: it may be given in very large doses. I give as many as five grains two or three times a-day, and even much more, frequently. The only disadvantage arising from it is that it constipates the bowels, but this is a very minor consideration: in fact, in some cases it is not altogether a disadvantage, for the less drain the patient has from him the better. Now we have more experience of gallic acid than we were aware; *Raspini's styptic*, which has been so extensively and so advantageously used, has been ascertained by Dr. A. T. Thomson to be chiefly a solution of gallic acid in alcohol. In all cases of hemorrhage, whether hæmoptysis, hæmatemesis, hæmaturia, or any other form dependent on hemorrhagic tendency, I have used gallic acid with the greatest advantage, and I am therefore inclined to look upon it as the best styptic which we possess.

When the hemorrhage results from a mechanical cause, such as the destruction of a renal calculus, the best single remedy is rest, to which may be added, free dilution, and a general treatment applicable to the peculiar diathesis of the patient.

ART. 26.—On Diminished Secretion of Urine in Advanced Life.

By Dr. G. E. DAY.

(*Diseases of Advanced Life*, p. 261.)

{The author mentions the fact that old persons very often complain of passing very little water. These patients he has noticed to present various indications of an impure or cachectic state of blood, and consequently of the system at large. Among the more common of these manifestations he enumerates:—}

1. Rheumatic pains in the limb; chiefly along the course of the sciatic nerve, aggravated by warmth.
2. Affections of the skin and mucous membranes; pemphigus and prurigo

senilis seem connected with this state of the system: the lips and eyelids become the seat of herpetic eruptions, which often end in intractable ulcers. The ankles are puffy, and liable to ulceration. The ulcers are painful, and secrete a thin fluid, which hardens into a dark-coloured crust.

3. Cerebral affections—headache, vertigo, drowsiness, and other symptoms premonitory of apoplexy.

The urine passed in such cases is dark-coloured, and approaching to or absolutely ammoniacal. It frequently deposits a copious sediment of urates and mucus, and usually communicates a feeling of scalding to the urethra. This condition of urine is a frequent cause of irritable bladder.

Persons suffering from this affection are generally upwards of sixty years of age, and commonly of the male sex. Amongst the causes may be mentioned a predisposition to gout or gravel, want of attention to the skin, improper food, and intemperance. Patients often experience relief from diarrhœa or profuse sweating. In fact, whether the effete matter is removed by the kidneys or the intestinal canal, or whether it is eliminated by the skin, there is always some temporary relief.

The leading indications of the treatment are stated to be, to remove the acrid condition of the urine and of the fluids generally, by rigid attention to diet, by free use of mild diluents, and by alkaline medicines. The skin must be attended to, and vapour and sulphur baths supplied. The internal use of sulphur is also recommended, as also is colchicum. In certain cases for the relief of the cutaneous irritability, opium is chiefly depended upon.

SECT. VII.—DISEASES OF THE SKIN, ETC.

ART. 27.—*General Remarks on the Diagnosis and Treatment of Diseases of the Skin.* By J. H. BURGESS, M.D.

(*Medical Gazette*, Feb. 23, 1849.)

Diagnosis.—The importance of an accurate diagnosis must not be lost sight of as an element in the study of diseases of the skin. After ascertaining the form of a disease, the next step is to identify and distinguish it from all other cutaneous affections, including varieties of its own species. It is obvious, therefore, that the utility of all subsequent inquiry mainly depends on accuracy of diagnosis in the first instance. Indeed, it is pretty generally admitted that one of the principal sources of the error which so long prevailed in this country as to the history of skin affections, is owing to the want of opportunity of observing the various eruptions from their commencement to their termination,—a contingency which must always occur while the practitioner has to depend on the irregular attendance of out-patients for his information. When we recollect the slight difference that exists between a vesicle and a pustule in certain stages of their course; that the bulla of rupia often closely resembles the pustule of ecthyma, and moreover, that the fluid of a vesicle may dry into a scab or incrustation; the fallacy of such a means of arriving at pathological facts, and precise descriptions of disease, must be sufficiently obvious. To understand thoroughly the diagnosis of the important class of diseases under consideration, it is necessary that they should pass before the eye of the student in every phase of their existence; and this desideratum is only to be obtained in an institution like the Hospital St. Louis, where the patients are admitted and retained during the progress of the disease. These remarks are particularly applicable to diseases of the face; for, amongst the great variety of eruptions to which this region is subject, it is obvious that there must be a considerable variation in the degree of severity of each, and in their appropriate treatment. For instance, a small herpetic ring, the vesicles of which are slightly exfoliated, situated on a perfectly sound and red surface, may often be mistaken for a patch of lepra without scales. It is needless to dwell on the evil results, as regards the treatment of the patient, sure to follow an error of this kind; but happily this mistake may easily be avoided, and cannot occur to any careful observer; for the depression in the centre, and the prominent border of the leprous patch, may

readily be distinguished from the even surface and the debris of vesicles so characteristic of the rings of herpes. Besides, there are generally several patches of lepra present at the same time, some of which are sufficiently developed to indicate their real nature. Again, herpes circinnatus may be confounded with porrigo scutulata, the name *ringworm* being erroneously applied to both. However, one is a vesicular, and the other a follicular disease. The latter is of long duration, forms thick scabs, is contagious, destroys the hair when it occurs in that neighbourhood; while the former is a mild affection, lasts but a short time, never destroys the hair, and terminates by desquamation, or by insensible exfoliation. The rings of lichen circumscriptus are not much larger than those of herpes circinnatus, and hence it is sometimes difficult to distinguish one from the other. Here we must depend principally on the nature of the elementary lesion for a means of diagnosis, which in the former case is a papule, whilst in the latter it is a vesicle. The nature of the eruption once ascertained, the treatment is exceedingly simple, and of short duration.

A knowledge of the elementary lesions is indispensably necessary before we can form a correct diagnosis; and an acquaintance with the secondary products will materially assist in attaining that end, and in distinguishing one variety from another. Having ascertained the form and situation of a given disease, we should next proceed by elimination—the method recommended by M. Cazenave—to discover the nature of the elementary lesion. By a mental process, which habit renders extremely easy, we may compare the physical characters of the disease before us with those of all other diseases of the skin, and so speedily arrived at a knowledge of this elementary lesion, which it is so important to understand well. If, for example, we observe an elevation of the cuticle caused by the effusion of a clear, transparent, serous fluid, we discard, by the process of elimination referred to, the exanthemata, papulæ, &c., and thus finally ascertain the vesicular character of the eruption. We have, then, merely to compare the disease under investigation with the different varieties of the vesicular eruptions, in order to individualize it. Continuing the same process of inquiry, a knowledge of the secondary products which form the basis of Willan's classification will enable us to distinguish the varieties themselves from each other, to separate eczema from herpes, itch, &c., and so with the various other forms of cutaneous disease. This preliminary method of elimination is absolutely necessary in the study of diseases of the skin; for, without it, correct diagnosis is impossible; and, as I have elsewhere observed, diagnosis is of the first importance; for, by disclosing the elementary nature of the disease, it enables us to prescribe a rational and enlightened method of cure.

Treatment.—No branch of pathology abounds with greater interest, or opens a more fertile field for pathological research, than that which embraces a consideration of the etiology and therapeutics of diseases of the skin. The circumstance of their occurring on tangible parts of the body, where their characteristic phenomena are appreciable by the eye, gives the student of this class of affections many and great advantages over the internal pathologist, for, to a certain degree, it approximates their study to that of a positive science, and dispels the conjecture and illusion which are more or less connected with the treatment of the lesions of organic life. The relation of cutaneous diseases to general pathology here claims our special attention. If we assume, and it is not far from the truth, that a vast majority of diseases of the skin are the result of constitutional debility and disorders of the digestive organs and of the fluids, it is clear that an inquiry into the condition of the functions must be instituted, and their present state ascertained, as far as it may be, before a correct method of treatment can be prescribed. The doctrine of crises is intimately associated with the history of eruptions of the skin, and it is of as much importance to know whether a given eruption is a critical and salutary discharge or natural counter irritant, as to be able to tell the tissue in which it is seated, and its anatomical element. If, for example, a patient presents himself with an eruption, which does not appear to be produced by any external or accidental cause, it is the duty of the physician to ascertain if it is the result of organic disease or constitutional disturbance; and if we examine with ordinary care and minuteness the previous mode of life of the

patient, the state of his constitution, and the antecedent diseases, we cannot fail to arrive at the true origin of the disease.

Thus, we frequently find a certain form of impetigo to be in reality but the expression of an exaggerated lymphatic temperament, an obstinate variety of eczema the external manifestation of functional disturbance of the apparatus of secretion, and frequently of the digestive organs; acne is commonly associated in females with disorder of the uterine functions, prurigo with an exalted state of the nervous system, and pemphigus with organic disease of the liver. It is obvious that to treat any of these eruptions as special diseases of the skin, and of entirely local origin, would be acting more in accordance with an irrational empiricism than with the true principles of medicine. Again, the hereditary predisposition which undoubtedly exists in numerous cases towards the production of what may be called the *special* diseases of the skin, should be taken into account in the treatment of any of these complaints. Lepra, psoriasis, and ichthyosis belong to this category: they are frequently the result of a vicious modification of the economy, which is hereditary and altogether inexplicable. I have observed patients who were literally encased in a scaly envelope of psoriasis, otherwise enjoying the best possible health. The internal functions were undisturbed, and the only inconvenience experienced was the mechanical impediment caused by the thick scaly covering to progressive motion. The various phases of life have also their peculiar influence in the production of skin complaints, which it will be well to bear in mind. It is during the period of infancy and childhood, for example, that we most commonly meet with fevers, certain forms of impetigo, variola, scarlatina, and measles; whereas in the decline of life we observe those chronic non-specific eruptions which indicate an enfeebled and decaying vitality. There is besides a degree of irritability and delicacy in the skin of some individuals, especially in females, which renders them more susceptible of cutaneous eruptions than persons of a duller sensibility of the surface. This condition is often hereditary, and individuals so circumstanced are generally attacked in spring or summer with one or other of the slight ephemeral diseases. A warm temperature, either natural or artificial, by causing increased determination to the vessels of the surface, or spiced food, and spirituous liquors, exaggerate this state of irritability into that of disease, and consequently should be avoided. Indeed, as Alibret has well observed, we should look at the skin as the double instrument of exhalation and absorption, as the deposit or reservoir of an exquisite sensibility, as the agent of most favorable crises in disease, and not merely as a means of defence against the contact of external substances capable of injuring more vital parts, as it is popularly considered.

From the preceding observations it will be seen that the treatment of cutaneous eruptions should always be considered with relation to their etiology. When they are produced by external causes, the treatment is extremely simple, and consists in hygienic measures, emollient applications, and general remedies adapted to the age, condition, and constitution of the patient. When, on the contrary, they are induced by constitutional causes, and the result of internal organic lesion, we should endeavour to ascertain what that lesion is, and where it is situated; and the treatment should be principally directed against the functional or organic cause—the *fons et origo* of the disease. The special diseases of the skin, as lepra, psoriasis, &c., require specific treatment, consisting in the employment of certain powerful remedies which experience has shown to be the most efficacious in this class of maladies.

Amongst the various remedies used in the treatment of skin complaints, I may mention in a general way the following, as those most commonly employed at the Hospital of St. Louis, by M. Cazenave, and attended with the greatest amount of success. Local and general bleeding in the acute inflammatory eruptions; purgatives and alteratives, as slow and gentle derivatives; alkalies in the pruriginous affections; acids in those eruptions with copious exhalation; antimonials in the chronic diseases, especially the squamous; preparations of sulphur, useful only in certain chronic varieties, and greatly overrated by most writers; sudorifics, employed in all the rebellious forms of dermoid complaint; mercury, and the arsenical preparations which, although belonging to the class

of empirical remedies, are undoubtedly the most efficacious remedial agents we possess against constitutional skin complaints. Baths, simple and compound, are freely used, also the vapour-bath and douche; ointments of sulphur, mercury, and iodine; escharotics, as the nitrate of silver, the arsenical paste of Friar Côme; the acid nitrate of mercury, and the chloride of zinc. I have seen these several remedies extensively employed at the Hospital of St. Louis by Bielt, and his able successor M. Cazenave, with excellent effect; and I have continued to prescribe them myself for several years past, both in dispensary and in private practice, with similar good results.

There is a remedy which exercises a powerful influence on the cutaneous exhalents, that I can specially recommend in the treatment of the more rebellious forms of disease of the skin, namely, *phosphorus*. My attention was first directed to this remedial agent during the period of the cholera in 1832, and I then found it successful, when every other remedy had failed, in several cases of that disease, where the vital powers seemed exhausted, and the patient in the lowest state of collapse. In these cases it seemed to act as a violent stimulant, principally through the nervous system, accelerating the circulation, and exalting the muscular irritability in the highest degree. I can now recommend it as one of the most valuable medicinal agents we possess in those inveterate cutaneous diseases, leprosy, psoriasis, lupus, in which the skin seems to adapt itself to the morbid condition, which it retains with singular tenacity against all the usual methods of treatment. The phosphorus treatment of those maladies may be either external or internal. The best method of administering the remedy internally is dissolved in oil or ether, and the phosphorated oil or ether then mixed with powdered gum Arabic and mint water. Camphorated lard is the most appropriate vehicle for administering phosphorus externally. Its energetic revulsive properties may likewise be turned to account in certain diseased conditions of the skin. Phosphorus, the iodides of arsenic and of mercury, and cantharides, are the most powerful internal remedies for skin diseases we possess. I have also found iodine and sulphur, and iodine and mercury, in the form of vapour, excellent local remedies in the chronic eruptions.

ART. 28.—*On Collodion in the Treatment of Skin Diseases.*

By ERASMUS WILSON., F. R. S.

(*Lancet*, Nov. 1848.)

From careful observation, Mr. Wilson finds collodion to possess four important properties:—

1st. That of a mild stimulant.

2d. That of an efficient substitute for the natural epithelium.

3d. That of a mechanical compress.

4th. That of an adhesive glue, from which quality it derives its name.

1st. As a mild stimulant, it is fitted to exert a local, alterative action on the congested capillaries of a chronic ulceration, and give activity to the healing process.

2d. In its character of a substitute for the absent scarf-skin, it is transparent, pliant, and more or less impermeable, according to the thickness of the layer that may seem to be required.

3d. Its most remarkable property is the contraction which occurs during the desiccation of the collodion, and which produces a local pressure of considerable power on the surface to which it is applied. Thus, in one case, the congestion of the thickened skin was relieved by the varnish-like film of collodion spread upon its surface, by means of a camel-hair brush, as completely as if a nicely-adjusted bandage had been placed over it. In another instance, the writer found a film of collodion entirely remove a purple congestion (resulting from imperfect circulation) from the tip of the nose, in a lady who had long suffered from the annoyance. In a third case, in which the fingers of an elderly lady were congested and blue, and the congestion was attended by pain and throbbing, like that which accompanies chilblains, the collodion produced so much contraction as to render their tips white and bloodless, and he was obliged to discontinue the application in consequence.

4th. The glue-like property of the collodion is evinced in its adhesion of cut surfaces, a property which is much increased by the contraction above mentioned. When employed with the purpose of keeping together the edges of an incision, a piece of cambric or thin linen rag should be dipped in the solution, and placed along the line of incision, after the cut edges have been adjusted and carefully dried, perfect dryness of the skin being a necessary condition to the adhesion of the solution. From the rapidity with which the solution dries, and its perfect adhesive powers, collodion is likely to occupy an important place among the "adjuvantia" of surgical practice.

The diseases of the skin in which Mr. Wilson has hitherto used the collodion with advantage are, chronic erythema of the face; intertrigo; chapped nipples and chapped hands; herpes labialis, preputialis, and herpes zoster; lichen agrius; lupus non exedens and exedens; acne vulgaris; and several affections of the sebiparous organs. In chronic erythema of the face, its contracting power was most usefully evinced, as it was also in lupus non exedens, and acne.

In a troublesome case of chapped hands and fingers, resulting from chronic lichen agrius, the collodion acted not merely as a protective covering, but also promoted the healing of the cracks more quickly than the remedies he has been in the habit of employing. In chapped nipples, it was even more efficient in its protective and curative action, and seemed, in the two instances in which he used it, to work a charm upon the painful skin. The gaping cracks were instantly drawn together, and almost obliterated by the contracting power of the remedy, and were effectually shielded from the influence of moisture and the pressure of the gums of the infant, and all this, in consequence of the rapid evaporation of the ether, in an instant of time. In another point of view the remedy is invaluable as an application to chapped nipples—namely, as being in nowise injurious to the infant, from offering nothing which can be removed by the lips during the act of sucking, and in this particular, therefore, possessing a vast superiority over the various forms of ointments, astringent lotions, &c.

In four instances, it immediately put a stop to herpes labialis, and in a very severe attack, it showed itself to be a powerful and useful remedy. Small superficial ulcerations of the corona glandis and prepuce, caused by excoriation, were cured by a single application, and in a gentleman very susceptible of excoriation, it acted admirably as a prophylactic. From the success of the latter trial, he is inclined to think that it might be usefully employed as a prophylactic, in cases of exposure to syphilitic contagion.

When properly applied, the collodion enters all the crevices of the lines of motion of the skin, and adheres so firmly as to require several washings for its removal. As it is usually prepared, it has the consistence of syrup, and in this state is best suited for those cases in which its adhesive properties are principally needed. Where, however, it is intended to be applied to the surface of an ulcer or abrasion, or to chaps, it is better to dilute it with ether.

[Since the above was written, the author, as well as others, has found that the film left by the evaporation is liable to crack from want of elasticity, and consequently to peel off. This defect is remedied by combining a certain proportion of oil with the ethereal solution of gun-cotton; by this means, the film is sufficiently elastic to follow the motion of the part to which it is applied, without separating into flakes. A further improvement is effected by colouring the solution a flesh colour. The coloured solution may be obtained by the name of Collodion Tinctum.]

ART. 29.—*Treatment of Prurigo*.—Dr. Burgess, looking upon prurigo as primarily a derangement of the nervous papillæ of the skin, to which the papule is secondary, is in the habit of prescribing strychnia and phosphorus. In several cases of the most distressing kind, he has found it allay the irritation after acids, alkalies, arsenic, &c., had failed. He has also seen much benefit from the use of phosphorated ether internally. He narrates a case of pruritus of the vulva which was cured in this manner. His dose of strychnine strikes us as rather heroic, $\frac{1}{8}$ gr. increased to $\frac{1}{4}$.

PART II.

S U R G E R Y .

SECT. I.—SYMPTOMATOLOGY AND DIAGNOSIS OF SURGICAL DISEASE.

ART. 30.—*On the Diagnosis and Treatment of Fissure of the Rectum.*
By BRANSBY B. COOPER, F.R.S.

(*Medical Gazette*, Oct. 27, 1848.)

The lecturer states that he has rarely met with this disease in hospital practice, but has found it not unfrequently among the higher classes of society, particularly in females; and he considers it to depend upon luxurious habits of living, want of sufficient bodily exercise, and also from inattention to the state of the bowels, as constipation is usually concomitant with the complaint. Protracted constipation tends to induce a state of contraction, and consequent resistance of the sphincter muscle; so that, the fæces being retained in the rectum, from the altered condition of the sphincter, the mucous membrane of the bowel becomes inflamed; there is produced a liability to ulceration, and fissure is no doubt the frequent consequence. The existence of fissure is indicated by an excruciating pain in the rectum, which is felt for an hour or two after defecation. The remarkable acuteness of this pain forms the principal diagnostic mark of the disease; for in prolapsus and fistula in ano the character of the pain is rather aching than acute. The pain of fissure is sharp and stinging, and generally confined to one part of the bowel, usually on its posterior surface towards the os coccygis. The description of this kind of pain would lead the surgeon at once to make an examination per anum, when the excessive pain experienced on passing the finger through the sphincter would constitute an additional diagnostic sign of the nature of the complaint. When the finger is introduced, which, from the irritability of the muscle, can only be effected with some difficulty, a ragged depression will be distinguishable in the mucous membrane; an accurate appreciation of the length and depth of the fissure will thus be obtained, and, when the finger is withdrawn, a stain of blood is perceivable on it, which indicates in some measure the form and extent of the ulcer. This disease may be readily cured by the following means: A straight, probe-pointed bistoury should be passed along the finger through the anus, so as to divide, in a longitudinal direction, not only the ulcerated mucous membrane, but also the subjacent muscular fibres of the sphincter, which prevent the healing of the ulcer by their frequent contractions. The knife must not be employed too freely, as there would be danger of cutting through the bowel; but here the degree of force that may be safely employed can only be learned by practical experience. During the operation the patient must be placed in the prone position, with his feet resting on the ground, and his body lying across the bed; the ulcer will then be found on the upper or coccygeal surface of the bowel, and conveniently placed for making the incision. Nitrate of silver, or lotions of any kind, are unavailing in this disease; but in almost every case the above operation affords a certain means of cure. It is true that the operation removes only the effect, the cause still remaining; but this also may generally be overcome by a strict system of diet, and the employment of such constitutional

remedies as the peculiarities of the case indicate. A very similar fissure often occurs in the centre of the lower lip. This sometimes resists all local applications, but Mr. Cooper states that he has cured it upon the principle just described; that is to say, by dividing the fibres of the orbicular muscle immediately below the fissure, the consequence being, that the ulcer, which had remained unhealed for several months, was completely cured in the course of a very few days.

ART. 31.—*On the Differential Diagnosis of Varicocele and Hernia.*

By Dr. L. R. THOMPSON.

(*Monthly Journal*, Nov. 1848.)

It is very frequently stated in books, that the diagnosis between varicocele and hernia is an easy matter. The case detailed proves the contrary. To make a correct diagnosis is of great consequence to the patient, as the application of an ordinary oblique hernial truss, where the principal pressure is wanted over the internal, and not, as in the case of varicocele, over the external ring, may seriously inconvenience the patient, and aggravate the disease. We have the testimony of Mr. Syme as to the difficulty of diagnosis when the dilatation occurs high in the cord, in which case the dilated veins receive an impulse on coughing, and in other respects resemble an inguinal hernia, particularly one consisting of omentum. As the most certain means of ascertaining the truth, the same author directs the surgeon "to compress the neck of the swelling while the patient stands erect, when, if composed of dilated veins, *it will become more tense.*" There is a statement made by Mr. Curling,* which would show that this plan may also prove fallacious. He says: "In a patient affected with this disease, if the spermatic cord be pretty firmly compressed between the fingers whilst the patient is in the recumbent position, and the vessels are empty, it will be found, on his assuming the erect position, that the vessels, instead of swelling as before, still remain empty and contracted. Even, too, when the patient is standing and the veins are full, if firm pressure be made on the cord, the vessels below being thus relieved of the superincumbent weight of the blood, will gradually become emptied of their contents."

Notwithstanding this latter statement—for the truth of which in every case, if in any, we would not vouch—the plan of grasping the cord firmly between the fingers—pinching and rubbing the vessels between finger and thumb—is, in the hands of the experienced surgeon, perhaps the most certain means of diagnosis; not because in this way the tumour becomes more tense (which it may or may not, according to the amount of pressure exerted), but because educated fingers can best by this means distinguish the tortuous and dilated vessels of a varicocele from other tumours of these parts. The student may still be taught the ordinary plan, as given in books, provided he be made aware that the pressure must be *gentle* and not *firm*, as most authors have it; for, as has been shown, if the pressure exerted be great, the veins may remain empty and contracted. Gentle pressure in most cases will suffice to keep up a hernia, but not a varicocele: firm pressure in most cases will keep up both. I would recommend the following manner of stating this method of distinguishing between the two diseases. Place the patient recumbent, and raise the scrotum until the swelling disappear: let gentle pressure be now applied at the abdominal outlet, and the patient made to assume the erect posture, when, if a varicocele, the tumour will reappear, but not so if a hernia. The tumour will be seen to reappear from below if a varicocele; and all pressure being removed, from above if a hernia.

* On Diseases of the Testis, p. 469.

ART. 32.—*Case in which a Halfpenny impacted in the Pharynx, was mistaken for the Irritation of Teething, and Tuberculosis of the Bronchial Glands.* By Dr. OGER WARD.

(*Dublin Medical Press*, Nov. 29, 1848.)

A boy, æt. 1 year and 8 months, came under Dr. Ward's care, June 23d, when his breathing was so loud and stridulous that it resounded through the hall in which he was waiting. As soon as he saw him, the child began to cry so convulsively, and was seized with such violent coughing, that a close examination of his throat was impossible. He was pale and emaciated, and seemed decidedly phthisical. The glands of the neck were somewhat enlarged, and the chest sounded well on percussion. His mother observed that he was quite well and hearty till March 3d, when she supposed he swallowed a halfpenny, with which he was playing, as he began to choke immediately, and the coin could not be found afterwards, and from that moment his breathing had become stridulous. She was then in Coventry barracks, and she took him to the regimental surgeon, who, thinking it an attack of irritation from teething, merely gave him some castor oil. At this time, besides the dyspnoea, he was constantly dribbling a thick mucus, and he could only suck one mouthful of milk at a time, being forced to withdraw from the breast with each effort of swallowing. The mucus was so profuse as almost to choke him; and these symptoms, with an increasing cough, continued for three months, till a short time before he came under Dr. Ward's care, when the dribbling had almost ceased. The mother next took him to the Coventry Hospital, where the case was again considered to be laryngismus from teething, and was treated accordingly. Dr. Ward concluded that the bronchial glands were affected with tuberculosis, as well as those of the neck, and, pressing on the recurrent nerves, were causing the stridulous breathing. He therefore prescribed an iodine liniment, and the syrup of iodide of iron. Under this treatment the child rapidly improved, with occasional relapses, and thus seemed to confirm his diagnosis, when, on October 25th, his mother brought him, looking comparatively well, and produced the halfpenny, which, she said, he had taken out of his mouth, and put into his father's hand, after a severe fit of coughing the day before. There is now, however, considerable hoarseness when he cries or coughs, the latter symptom not having ceased with the removal of the cause. The halfpenny was very much worn or corroded, and covered with a thick coating of dried mucus or masticated food. From this time the patient has gradually improved, and may now be considered convalescent.

ART. 33.—*Case exemplifying the Difficulty of Diagnosing Stone in the Bladder.* By SAMUEL SOLLY, F.R.S.

(*Medical Gazette*, Dec. 29, 1848.)

The following case is interesting as showing how long a stone may remain in the bladder without detection. He had been under a talented surgeon who could not detect calculus:—

Robert Kain, æt. 37, was admitted into Henry's ward, No. 3 bed, under the care of Mr. Green, October 3d, 1848. He is a tailor, of Chatham, unmarried, and of irregular habits, short and spare, and of a dark complexion.

In August, 1846, he had gonorrhœa, for which he was treated with Tr. cubebæ, and the discharge was quickly arrested; this is the last time he had gonorrhœa; he had it once before.

In May, 1847, he was attacked in the following manner: he had one day held his water too long on the passage from Chatham to London, and when he attempted to void his urine, could not do so for some time, and at last it came in a very small stream. Afterwards he had frequent and great desire to pass it: he could, however, pass but very little at a time, and with great cutting pain along the urethra. He did not observe any peculiarity in the size or shape of the stream, though he remarked that a thick and white slime settled to the bottom of the vessel, and adhered there. This attack lasted three or four days,

and then went off, leaving no effects, but in a week the symptoms returned, and have remained with him since. He was treated as for stricture, by the passage of bougies; subsequently by the injection of warm water, which relieved him the most.

When admitted to the hospital, his urethra was in a very irritable state, so that its firm contraction led to the belief that he had had permanent stricture, and only a small catgut bougie could be passed: however, this decreased, so that on November 4th a No. 6 catheter could be passed into the bladder. He is now, November 4, in the following state: he is frequently troubled with desire to void urine; this he passes in small quantities, with pain in the urethra, sometimes in either testicle. The urine contains a good deal of thick, tenacious mucus, no pus or albumen, but, examined by the microscope, some prismatic crystals are found, apparently triple-phosphate; the prostate gland, examined by the rectum, is not enlarged, but excessively tender, so that pressure on it causes pain down each thigh, and a desire to pass urine. In passing a catheter, a sensation of roughness is felt just as the instrument is passing into the bladder, probably from thickening or ulceration about the verumontanum or prostate. The patient remarks that when he is upright, walking about, the calls to void urine are less violent than when he is lying down.

The roughness referred to in the above report I experienced in passing the instrument over the verumontanum; it was like the sensation experienced when the catheter passes into a false passage—it was not that of a rough, hard body, like a stone. I ordered the man the infusion of buchu, with dilute mineral acids, but, as we can now well understand, without any relief. I then determined to pass down Lallemand's caustic-holding catheter, and unsheath it for a moment over the verumontanum, but, on introducing the instrument very carefully, the point struck distinctly on the stone. I then introduced an ordinary sound, and felt it still more decidedly, and by weighing it in the curve of the instrument, and by carrying the point over the surface of the stone, I came to the conclusion that it was a large stone. Mr. Green, who also examined him, confirmed me in this opinion.

ART. 34.—*Aneurism of the Carotid Artery, simulating Cyanche Tonsillaris.*—Dr. Duke related to the Surgical Society of Ireland the case of a married man, aged 32, who, about twelve months after a severe blow on the head, was attacked with symptoms of ordinary catarrh and sore throat. He had, since the accident, which he considered as the cause of his symptoms, been subject to occasional headache, and a rushing noise in his head, as of wind. When seen, there were quick pulse, cough, and fever; the right tonsil and side of the fauces appeared inflamed. During the next two days the swelling extended, causing little pain, but considerable difficulty of deglutition. On passing the finger into the mouth, with a view of detecting fluctuation, it was discovered that a strong pulsation existed in every part of the tumour, which was soft and elastic to the touch. The stethoscope, applied behind the angle of the jaw, detected a loud bruit. This revealed the true nature of the case; but next day the patient, being in considerable pain, requested relief from another medical man who happened to be present. The tumour was punctured with a bistoury, and a jet of arterial blood followed; this, however, was commanded by pressure, which was kept up till the following day without more than a few ounces of blood being lost. The common carotid artery was then tied in the usual manner; pulsation immediately ceased in the tumour. There was no subsequent hemorrhage; but the power of deglutition was completely lost for five days after the operation, and then suddenly restored. At the end of five weeks, being apparently quite well, he went to visit some friends, and was induced to drink spirits. During the night, smart hemorrhage occurred from the mouth, which proved fatal before assistance could be obtained. No *post-mortem* examination was allowed. Dr. Duke considers this a case of diffused or false aneurism from a wounded or diseased condition of the vessel, the result of the blow. He thinks that the vessel was probably injured by a spiculum of bone, which had caused disease and softening of its coats; and that, during one of the fits of coughing to which he was subject, the artery had been ruptured, and the blood

extravasated into the cellular tissue, causing the swelling visible in the throat. This was entirely destitute of visible pulsation, although to the touch the evidences of aneurism were very evident.

Reported in Medical Times, Sept. 1848.

SECT. II.—NATURE AND CAUSES OF SURGICAL DISEASES.

ART. 35.—*Cases of Rupture of the Urinary Bladder, with Remarks by* EBEN WATSON, M. D.

(Condensed from *The Monthly Journal of Medical Sciences*, Dec. 1848.)

CASE I.—William M'Culloch, aged 32, a carter, was admitted into No. 11 ward of the Glasgow Royal Infirmary on the evening of August 13, 1844.

Three days before his admission, in the act of leaping from a cart, which was the foremost of a line of several, the patient's foot slipped, and he fell to the ground upon his back. While in this position, the wheels of three wagons passed between his legs, and over his left groin and thigh. His chief complaint, after the accident, was of pain in the perineum and above the pubis, with a constant desire, but complete inability, to pass his urine. The treatment consisted of bleeding from the arm, and by leeches to the part affected. His bowels were freely moved by medicine.

On his admission, he still complained of pain in the perineum; his countenance was anxious, and his respiration rapid; pulse 113, feeble. There was livid ecchymosis of the skin on the inside of the left thigh and groin, as also of the scrotum and penis. The cellular tissue of the upper part of the thigh, scrotum, and perineum, especially its left side, were much swollen, and communicated such a sensation as if the parts mentioned were distended with air and fluid. It was not at this time judged prudent to make such an examination as could enable us to detect fracture of the pelvis; but this being strongly suspected, perfect repose in the easiest position was enjoined, fomentations were assiduously applied to the injured parts, a Dover's powder was given, and wine was cautiously administered. The catheter was introduced with ease, and apparently into the bladder. A considerable quantity of bloody, fetid urine flowed by it, and the patient felt much relieved.

Next day this state was much the same, but easier, on account of the frequent introduction of the catheter, by which a very little urine was on each occasion allowed to trickle away. A free incision was made by the late Dr. Hannay, then surgeon to the hospital, on the left side of the raphe, and at the anterior part of the perineum. Thirty-two ounces of fluid, which had a strong urinous odour, were thus evacuated; and, when the finger was introduced into the wound, the ramus of the pubis could be felt fractured about its middle. The patient is reported to have experienced much relief on the evacuation of this urinous fluid. Pulse still continued quick and feeble, and his other symptoms indicated much general prostration. It is also reported that the sensibility of the lower extremities remained unimpaired.

On the 15th, the hospital report is as follows: "Urine flows freely by the wound. Feels and looks relieved. Ends of bone (viz. of pubis, felt through the wound) at a distance from one another, and distinctly movable. Tongue clean and moist. Pulse 90, improved in strength. Natural movement of bowels. Patient can raise lower part of body in bed.

Next day he was ordered six ounces of whiskey, instead of his wine; but there is no report until the 24th, when it is said that the "patient has had several rigors, followed by heat of skin. Pulse rapid, small, and weak. Complaints of thirst and of weakness only. Bowels free; tongue moist, and slightly white. Urine flows freely by the wound, and a considerable extent of the ischium is exposed, by sloughing of the cellular tissue."

Dover's powder at night was substituted for the camphor and opium.

Next day (25th) it is reported that there is extensive sloughing of perineum, and over sacrum; but that, in other respects, the patient is not worse.

27th. Debility and exhaustion increase. Respiration 40 per minute. Pulse scarcely to be felt, and tremulous.

He died next morning.

29th. *On inspection*, much effused blood was found beneath the pelvic fascia, and in the folds of the meso-colon and meso-rectum. The bladder was found ruptured obliquely through the left side of its neck, and below the reflexion of the peritoneum, which constitutes its lateral false ligaments. The coats of the bladder were thickened and inflamed. The rupture was a clean rent through both coats, and admitted three fingers. It opened into what appeared a large abscess, stretching up behind the bladder, and between it and the sacrum. The incision had been made into this cavity. The urethra was sound and uninjured throughout its entire length.

The left sacro-iliac synchondrosis was completely separated, and the left side of the body of the pubis was fractured close to the symphysis. The left ramus of the pubis and ischium was also fractured, and the fracture extended into the acetabulum. The tuberosity of the ischium was completely separated from the body of the bone. The cavity of the left acetabulum contained a quantity of purulent matter, and its lining membrane presented the usual appearances of high inflammation.

On the right side of the pelvis, the only injury was an oblique fracture of the ramus of the pubis, without any displacement.

At the lower margin of the right lobe of the liver there was a small deposit of purulent matter. Other organs were quite healthy.

CASE II.—George Bell, aged 27, an engineer, was admitted into ward No. 11 of the Glasgow Royal Infirmary, on the 14th of March, 1846, at nine and a half P. M. (Dr. A. Buchanan was at this time surgeon to the hospital.) Half an hour before his admission, the patient was at work beside the steam-engine which he had charge of, when his left foot was caught by the fly-wheel, and he was drawn in among the machinery. The foot passed between two spokes, and the whole force of the revolving-wheel came upon his leg, which was pressed against the belt, and the engine thus stopped. But before that was effected, his right leg had been twisted upwards, and he had received a violent blow at the lower part of his back from the main shaft of the engine.

On examination, it was found that the patient had suffered a severe compound fracture of both bones of the left leg, which was immediately attended to.

He complained much of pain at the right sacro-iliac synchondrosis, especially when the limb of that side was moved; and, with the exception of being able to draw up the leg a little, he had no power of moving it. The posterior part of the right ilium was felt to project more than that of the other side, and it was more movable on the sacrum, which seemed at a relatively greater depth from the surface of the back. In short, there appeared to be displacement of the sacrum forwards, and of the ilium backwards, on the right side.

Patient had an uneasy and ineffectual desire to micturate. Some bloody urine was drawn off by the catheter. His face and surface generally were pale and cold. Pulse quick and feeble.

He had been in perfect health up to the time of the accident.

Next day the patient was still very uneasy, and evidently feebler. He was unable to micturate by voluntary effort, but felt much relieved by the frequent introduction of the catheter; on which occasions small quantities of slightly bloody urine were usually evacuated.

The evident indications of supporting the failing strength, and allaying the sufferings of the patient, were attended to, but without avail, for next morning he was found sinking fast, and he expired at six P. M.

17th. On inspection of the fractured leg, it was ascertained that the posterior tibial artery was sound, but that the perineal was ruptured.

On examining the abdomen, the bladder was found ruptured at its fundus, so as to admit three or four fingers. The rupture was transverse, i. e. nearly parallel to the transverse diameter of the pelvis, and its edges were clean. A very small quantity of urine was found in the peritoneum; of which that part which lines the pelvis was much injected. A large quantity of blood was effused into the interior of the pelvis, and into the substance of the muscles at the

lower part of the abdomen, as well as between them and the peritoneum. The other abdominal organs were healthy.

The right ilium was quite separated from the sacrum at the synchondrosis, and the pubic ligaments were also ruptured, so that the os innominatum was thus completely detached from the rest of the pelvis.

On these cases Dr. Watson remarks as follows:—

The first point of interest in these cases is the mechanical cause of the rupture in the coats of the bladder.

Dr. Harrison, in his excellent paper "On Rupture of the Bladder," contained in the ninth volume of the "Dublin Medical Journal," p. 349, states two causes of this lesion, to which he refers all recorded cases of it. His words are—"Every case on record has been the result either of some force directly applied against the abdomen, such as a blow or fall against some resisting body, or of a fall from a height, causing a general concussion of the whole frame." We think it will not be difficult to show that the above cases resulted from neither of these two causes; and it will be equally easy to point out a different, but a very obvious and sufficient, cause for the lesions sustained.

In the first of them, the force was not applied directly against the abdomen, but across the groin; neither does it seem that the bladder was ruptured by the general concussion, which, no doubt, was caused by the fall from the cart; for in all recorded cases of this last-mentioned kind, viz. those in which rupture has resulted from "a general concussion of the whole frame," the seat of the rupture is at the base of the bladder. But the situation of the rupture in the case under consideration was very different. It was in the neck of the bladder, and at that part of it, too, which exactly corresponded in position, extent, and direction to the loosened part of the pubic bone.

In the second case, that of George Bell, the force which caused the rupture acted from behind. It is somewhat difficult, however, to determine precisely how the blow operated, whether by producing a general concussion of the whole frame, or by causing the bones to impinge directly on the base of the bladder. We think, however, that the nature of the accident, and its obvious effects, sufficiently prove the latter supposition to be correct.

In both of these cases the accident was of a very severe kind, and the nervous shock proportionately great; but the progress of the cases was by no means such as it would have been had the bladder remained entire. The prominent symptoms in both cases were those occasioned by the lesions of the bladder, and yet their character and course were materially different.

As regards the case of the man M'Culloch, we unfortunately cannot speak with precision of the state into which he was immediately thrown by the accident, seeing that he was not admitted into the hospital until three days thereafter; but, judging from the severe antiphlogistic treatment which he appears to have required, and to have borne, his state must have been one much more acutely inflammatory than that of George Bell. The latter, indeed, never recovered from the nervous prostration caused by the effusion of urine into the peritoneum, combined with the shock of the accident. The latter, although severe, would not, we think, have been adequate to the effect produced, had not the former concurred with it. The patient in this case lived forty-five hours, and expired without exhibiting the slightest symptom of reaction. Such a termination of the case will not astonish any one, however, who remembers the effect of a foreign fluid in the peritoneum, especially when of an irritating nature, and suddenly introduced, as was the urine in this instance.

M'Culloch, the subject of the other case, lived for eighteen days after the accident. The "shock" which he received at first was not indeed so severe as that under which the other man sunk, but the injury to the pelvis was much greater. The true explanation of the great difference in this respect between these two cases is to be found in the fact, that in the latter the urine was not, as in the former, discharged into the peritoneum, but into the muscles beneath it. Inflammation, suppuration, and sloughing ensued, the tendency being towards a natural cure by external opening of the abscess. This effort of nature was duly aided by surgical interference; and there is little doubt in my mind that this patient would have ultimately recovered, had he not fallen a victim to

that mysterious disease, phlebitis, which was then prevalent in the hospital. In his "Pathology and Practice of Surgery," Mr. Syme has lately recorded an interesting case of rupture of the neck of the bladder, from direct violence applied above the pubis, and without fracture of the pelvis. The skin was freely incised in the place indicated, the patient's strength was supported, and, after a critical illness, he recovered in about six weeks. This, we believe, is one of the only two cases on record of recovery from rupture of the bladder. The true principle of prognosis in these cases has been laid down by the same high authority, that "if the rupture takes place above or within the reflexion of the peritoneum, there cannot be the slightest chance of escape. But if the rent is at the anterior part, so as to discharge the contents of the bladder by a sudden gush into the cellular substance, and condense it in such a way that only the portion in contact with the urine may be deprived of life, it appears that the patient may be saved by timely incisions." This latter observation is equally applicable to such cases as that of McCulloch, formerly related, the only difference being in the position of the rupture, viz., in the side rather than in the front of the neck of the bladder. Mr. Syme, in penning the remark, obviously referred to cases similar to his own, in which no fracture of the pelvis existed; and, in these circumstances, the only part of the bladder which could suffer rupture without involving the peritoneum is the anterior part of its neck. But in cases of fracture of the pelvis, a large portion of the sides, and of the inferior part of the bladder, is liable to rupture, while the peritoneum may not be injured.

In regard to treatment as well as to prognosis, cases of rupture of the bladder are divisible into two classes, viz., those within and those without the peritoneal sac. The great feature of treatment in the former class of cases is incision for the relief of the extravasation, which is the immediate consequence of such ruptures.

The question now naturally occurs, What is the treatment proper for intra-peritoneal rupture of the bladder? or, Is there none? Dr. Harrison recommends tapping of the peritoneum from the rectum; but the operation has not been tried. Certainly, if such an operation is to be at all successful, that must be the situation of the opening into the peritoneum. There could be no expectation of benefit from paracentesis in the usual place, where it was performed in two fatal cases of this kind, mentioned by Dr. Harrison. This practice seems to me well worth trying in all such cases in which the bladder is reported to have been much distended at the time of the accident. It can add nothing to the danger of the patient, and seems to give him the only chance of life.

The difficulty of diagnosing between these two sets of cases is often extreme; but perhaps the absence of every symptom except those of rapid failure of the vital energies contrasts sufficiently with the phenomena, more or less apparent, of acute peritonitis, to enable the observer to distinguish, in most instances, those in which there is much, from those in which there is little, urine effused into the peritoneum. In the latter class of cases, the ordinary constitutional treatment of acute peritonitis—venesection, if the patient is seen in time, the free administration of calomel, opiates, and warm-water enemata, with fomentations to the abdomen and complete rest, must be relied upon alone; nor ought such means to be neglected in the former class of cases, whatever else may be done for the patient. It is but too likely, from the nature of these cases, that if the patient live long enough stimulants may be proper; but they should be given with great care and watchfulness as to their effects. In all such cases, the anxiety of the surgeon will naturally be directed to the prevention of the accumulation of the urine in the bladder, which, if it did occur, even in a small measure, might endanger a new effusion of urine into the abdomen. This indication will be fulfilled, so far as possible, by the frequent introduction of the catheter, or, if the patient bear it well, by leaving a gum catheter in the urethra, care being taken not to push it beyond the neck of the bladder, lest, by adding a new cause of irritation, the existing inflammation be increased or renewed.

ART. 36.—*Case of Incomplete Reduction, en masse, of an Inguinal Hernia, with Remarks.* By JAMES REID, Surgeon.

(*Prov. Med. and Surg. Journal*, Jan. 24, 1849.)

The reduction of a hernia, "en masse," with its peritoneal investments, by the taxis, and the appropriate mode of treatment, has until the last few years rested almost entirely on the authority of foreign surgeons. Mr. Luke was the first in this country to make the occurrence the subject of a particular treatise. Since his excellent paper, founded on the experience of five cases, was read before the Medico-Chirurgical Society, and published in their "Transactions," notices of three other cases have appeared in the English journals. The hitherto supposed rarity of the accident has therefore much diminished, and the influence that the probability of its occurrence should exert during the investigation of an obscure case in which symptoms of strangulation exist, has become more recognized. Under present circumstances, however, every additional case may be viewed with interest, and may assist in confirming or elucidating the information already obtained upon the subject. It is with this view that I am induced to publish the following case of incomplete reduction "en masse."

J. H.—, a strong, active, old man, aged 75, was admitted under my care into the Kent and Canterbury Hospital, with symptoms of strangulated hernia. He had been subject to double inguinal rupture, partly occupying the scrotum, for which he had worn a truss forty years; and more recently to a protrusion, the size of a walnut, at the navel. The right inguinal rupture had appeared some few years after the left, and had troubled him most, having on one occasion become incarcerated for several days, occasioning constipation and vomiting, and being at length reduced with difficulty. Two days previous to his admission into the hospital, he exerted himself more than usual in spearing for eels; feeling afterwards indisposed, he went to bed sooner than usual, and was soon attacked with severe pain in the abdomen, followed by vomiting. He then discovered that the rupture had descended, and made ineffectual attempts to reduce it. The next day he renewed the efforts, applying for that purpose a hot tile, and making pressure upon it. After an attempt continued for some time, the swelling was reduced in size, and he considered that he had returned it, but the symptoms still continued. A medical man was now sent for, who detected a small swelling in the situation of the inguinal canal; an attempt was made to reduce it, and purgatives were administered.

He was admitted into the hospital forty-eight hours after the occurrence of the first symptoms. The countenance was anxious; there was constant vomiting, accompanied by hiccough; the matter thrown up was the contents of the small intestine; the abdomen was distended, but not tender, except in the immediate neighborhood of the right inguinal region; there had been no action of the bowels for forty-eight hours. Tongue stained by the matter vomited; pulse of natural frequency, full, intermitting; the radial artery felt ossified. About the situation of the right internal abdominal ring, there was a small, diffused swelling (better, perhaps, described as a fullness of the part), so ill-defined that it was said, at first, there was no protrusion; however, on comparing it with the opposite side, and pressing in the fingers around it, the tumour was more readily detected. Pressure upon the swelling produced pain, and caused it to recede; but it returned immediately upon the pressure being relinquished. A lump feeling, like a loose sac containing omentum, occupied and extended from the external ring.

The taxis in the warm bath, a turpentine injection, &c., producing no change, an operation was determined upon. An incision was made opposite the internal ring directly over the swelling, and continued parallel to the inguinal canal. The tendon of the external oblique, the fibres of the internal oblique and transversalis, each, in distinct layers, were divided, and a hernial tumour, the size of a large walnut, was exposed in the upper part of the inguinal canal. A portion of small intestine, of a dark colour, but reserving its natural lustre, and a small quantity of dirty fluid, were found in the protruded sac. This portion of the sac was but a small part of the whole; the remainder was situated

within the abdomen, so that it required the full length of the index-finger (a middle-sized one) to reach the seat of stricture—the neck of the sac. It was necessary, before dividing the stricture, to obtain more freedom by incising the lower edge of the abdominal muscles in a direction across their fibres, and, in order to prevent the neck of the sac receding from the finger, to have it held by the divided edge. The nail of the fore-finger was then, with difficulty, insinuated between the intestine and the stricture, and the latter was divided. Although the finger freely entered the abdomen through the neck of the sac, some obstruction opposed the return of the intestine. A resisting band was felt, situated to the inner side of the neck of the sac, between which and the abdominal parietes the intestine was pressed, and could be felt passing towards the mesial line beyond the reach of the finger; it was dislodged from this situation, and pushed back into the abdomen. The wound was closed, and a bandage applied. The further details of the progress of the case, until the patient's death, are briefly these:—

No immediate relief was afforded by the operation; partial quiet and alleviation of symptoms were obtained by an opiate administered directly after; the vomiting continued, and constipation remained. No satisfactory action of the bowels was obtained by the free exhibition of enemata, thrown up with the long elastic tube introduced to its full extent. Symptoms of peritonitis were established (in spite of remedies) twenty-four hours after the operation, and in thirty-six hours evidences of failing vitality appeared; gangrene of the posterior part of the scrotum was discovered, and in the course of twelve hours it spread over the scrotum, penis, lower part of the abdomen, and upper part of the thighs. The patient died in rather more than forty-eight hours after the operation.

Post-mortem examination, thirty-six hours after death.—The gangrenous integument was distended with gas. The layer of adipose tissue was thick; the edges of the wound not adhering. There were evidences of general peritonitis, which were most marked in the right inguinal region, where the convolutions were glued together by recently effused lymph. The portion of intestine that had been strangulated, consisting of nearly a foot of the upper part of the ileum, was dark-coloured, almost black, covered with patches of recently effused lymph, puckered up in the position it must have assumed in the sac, and deeply marked by the stricture, having an additional depression, partly encircling it below the indenture. The position and relation of the sac will perhaps be better understood by describing it as forming a double pouch, with a common neck and opening; a smaller pouch, about one fifth of the whole, partly within the abdomen, and partly protruding through the internal ring; and a second and larger pouch, placed nearly at right angles to the former, and extending from the inner side of the internal ring between the peritoneum and abdominal parietes. The cord of the obliterated hypogastric artery had been separated from its natural position on the inner side of the internal ring by the interposition of the larger pouch. It was this which formed the resisting band felt during the operation, and which had caused the second mark upon the portion of intestine that had been strangulated. The sac was readily drawn out from its double position, and then formed a simple bag. The outer side of the neck of the sac was only slightly separated from its connection with the abdominal parietes. The substance which had been felt at the external ring proved to be a mass of fat, connected by a long pedicle, extending up the inguinal canal to the exterior of the protruded portion of the sac.

Mr. Luke, in his observations, says "that the firmness of the adhesion of the parts in which a hernia is embedded, bears no proportion to the duration of the hernial protrusion." This remark is of great importance in relation to the efforts that it is safe to make in reducing a hernia by the taxis, both as regards the degree of force to be used, and the period to which it may extend. The evidence furnished by the present case is not very satisfactory on this point, as I could not obtain from the patient a very clear detail of what had previously occurred. As far as I could ascertain, the force used was not sufficient to cause much pain; the reduction of the swelling was perceived by a gradual diminution in its size, not by any sudden decrease. There was no appearance of injury or

bruising of the integuments in the neighbourhood of the swelling when he was admitted into the hospital, and the intestine also was free from ecchymosis. On the whole, I am inclined to the opinion that the reduction was effected *more* by the continual employment of a degree of force, not injurious perhaps in itself, than by any one or more undue violent efforts.

My first conclusion with regard to the nature of the present case was, that a scrotal rupture had been partly reduced, a portion of intestine remaining in the inguinal canal, constricted in some manner at the external ring. This opinion was founded on the evidence of the indefinite swelling, the form a protrusion assumes when small and confined to the inguinal canal, and the pressure at the external ring of what I thought was a hernial sac. The ready yielding of the tumour and its reappearance raised a difficulty to such a diagnosis, and a suspicion of the real nature of the case was then entertained; but the supposed sac at the external ring was an obstacle to such a view of the matter. The clear indication, under existing circumstances, was to cut down on the swelling in the canal, and explore the mystery. The formation of fat about the sacs of old herniæ is mentioned by some authors on hernia.

I have, since this case occurred, noticed a similar mass of fat appended to an old scrotal hernia that became the subject of a *post-mortem* examination; it was uniformly attached to the sac, though easily separable, and might have been left behind in the reduction of the sac, in the manner that I conjecture the mass in the present instance to have been. More recently, in operating upon a strangulated inguinal rupture, which had existed many years, and been operated on before, after I had divided a very thick layer of fascia, a mass was exposed, resembling, at first sight, omentum covered with a thin sac; it proved to be a layer of fat about one third of an inch thick, connected with the sac which was situated beneath it.

Mr. Luke, in speaking of the facts connected with reduction in mass, and the conclusions to be drawn from them, remarks, "that the presence of a sac, even without hernial contents, causes an abdominal fullness in the part, easily ascertained by examination. The absence of such fullness in a part where hernia is known to have previously descended, necessarily leads to the conclusion that the sac upon which it depended has been displaced, and probably returned, together with the hernia. The sac in inguinal hernia below the external ring, becomes united with the spermatic cord, whereby the latter is usually rendered indistinct and obscure. The absence of that indistinctness and obscurity implies the removal of the cause which previously produced them, and, therefore, that the sac has been displaced. The *continuance* of the indistinctness or obscurity leads to a directly *contrary conclusion*."

The present case shows that the conclusion to be drawn with regard to the presence of the sac, from the existence of a substance feeling like omentum in the situation recently occupied by a hernial protrusion, suspected to have been reduced in mass, should be received with some reservation.

Unconfirmed by other evidence, it cannot be viewed as a certain proof. In addition to this, the existence of depositions of fat in the cord often placed at the external ring, cysts of the cord, and varicocele, would cause a fullness and obscurity about it, which could not be distinguished from that occasioned by the sac, with or without some portion of its contents. The only effect, perhaps, of this uncertainty on practice in such cases, would be to afford additional reason for an exploratory operation. The direction which the returned bowel, with its investing sac, took, to the inner side of the internal ring, is not that which appears generally to have been observed in inguinal hernia—viz. below the level of the internal ring towards the cavity of the pelvis, or else towards the outer side of the ring. The incomplete reduction of the hernia is in accordance with the results of the experiments made by Jules Cloquet on the dead subject—that "in external inguinal hernia the reduction is generally incomplete, and the swelling reappears as soon as the efforts at reduction are discontinued." I cannot help thinking that, in this instance, the obliterated hypogastric cord had some share in causing the small portion of the rupture to reappear when apparently reduced, and preventing the complete reduction of the whole. By the approximation of the internal ring, from the long continuance of the rupture,

towards the obliterated artery, and by the interposition of the sac and intestine between the parietes of the abdomen and the peritoneum (the neck of the sac retaining its connections externally), the inner edge of the neck and the obliterated artery would be forced in a direction backwards and somewhat outwards, so as to bring the latter more nearly opposite the internal ring. Its resistance, added to that afforded by the connection of the peritoneum with the walls of the abdomen, would then form an obstacle to the complete reduction. Be that as it may, the cord of the vessel exercised considerable pressure, much more than might, *à priori*, have been anticipated. The difficulty in returning the intestine after the neck of the sac had been divided, and the mark discovered about the portion of bowel that must have occupied the large pouch, sufficiently show this. The manner in which the reduced portion of rupture was girt between the hypogastric cord and the abdominal parietes, would have prevented the reprotrusion of that part by the efforts of coughing and straining, as have been recommended, the effect of such attempts being to cause the cord to press more tightly upon the part it constricted. The depth from the surface at which the stricture was placed, and the obstacle the hypogastric cord occasioned to the return of the intestine, furnished the only difficulties in the operation. The return of the intestine might have been facilitated by dividing this cord if it could have been recognized; but then, it should be remembered that it is sometimes pervious by a narrow canal conveying blood for the supply of superior vesical arteries, and a troublesome, perhaps serious hemorrhage, might have resulted. The continuance of the symptoms of strangulation after the operation, was due to the portion of bowel not recovering itself after it was replaced.

ART. 37.—*Strangulated Inguinal Hernia returned en masse by Taxis.*—Operation required. By M. HOMOLLE.

(*Union Médicale*, and *Monthly Journal*, Feb. 1849.)

Dr. Homolle details a case of hernia in which the tumour had been returned into the abdomen by the patient himself. The reduction was followed by symptoms of strangulation; and, notwithstanding all efforts of coughing, &c., the tumour could not be again made to descend into the canal. On the evening of the second day from the return of the hernia, the symptoms became urgent, and M. Robert was called in consultation, when an operation was agreed on as the only chance of affording relief. M. Robert proceeded to operate, and the following are the details of the operation: "An incision was made through the integuments of the abdomen about $3\frac{1}{2}$ inches long, nearly parallel to the ligament of Fallopius, and extending to just below the inguinal ring. The aponeurosis of the external oblique was divided along the whole extent of the external wound, and the finger was passed into the abdomen behind the inguinal region; by pushing aside the fibres of the internal oblique and transversalis, and by pressing back the peritoneum and the loose cellular tissue uniting it to the anterior abdominal parietes, M. Robert hoped to find the sac in the iliac fossa, and immediately behind the superior orifice of the inguinal canal, as had happened to him twice already under similar circumstances; but there was no appearance of it. After a long and painful search, we found the tumour behind the external border of the rectus muscle. It was rather glistening in appearance, and very movable. M. Robert tried several times to seize it with the forceps and draw it out; but the very loose cellular tissue covering it, either escaped each time from his hold, or was torn without being drawn down. At length, however, after fits of coughing, which the patient courageously kept up for some minutes, it was inclosed slightly between the lips of the wound.

"M. Robert then divided the sac; it contained, along with a little serous fluid, a large and very red knuckle of intestine, and a pretty large mass of omentum in front of it. The sac was drawn out as far as possible, and freely opened with scissors, guided along the index finger, and so by degrees the seat of strangulation was reached, and divided likewise. Whilst Dr. Homolle fixed the two lips of the sac outside by means of forceps, M. Robert endeavoured to return the intestine, which was accomplished with difficulty, and after some

considerable time. The inflamed state of the omentum forbade its being returned; it was left out, and abandoned to the chances of suppuration and mortification, which generally overtake it in such cases. The dressing was very simple; a piece of linen, pierced with holes, was placed over the omentum, which was hanging between the lips of the wound; then a few pledgets of lint and a spica bandage. Ordered him a draught of syrup of peach blossom and castor oil, twenty grammes of each. He had a good night, no fever, got some sleep, and passed several watery stools. On the 9th of January the dressing was raised: there was a laudable and abundant suppuration. From this time the wound was dressed every morning; the omentum continued to suppurate and diminish in bulk. At the end of three weeks the wound was only two inches in extent; the digestive functions were perfectly re-established. After the sixth week the patient was able to be up; and at this day he walks about as well as ever, and experiences no inconvenience from the hernia, which is kept up by a bandage."

[Upon this case, the editor of the 'Monthly Journal' has the following remarks:—]

This case is interesting in more than one point of view; but we think it especially so, as directing attention to the question of operating in similar cases. The opinion very generally held hitherto on the subject has been—that where symptoms of strangulation follow the reduction of hernia by taxis, and where the tumour cannot be made to reappear by coughing, or other expulsive efforts, that the cases are similarly circumstanced to those of internal strangulation from other causes; and the opinions as to the propriety or otherwise of operative interference have varied according to the views held regarding the general question of the propriety of gastrotomy.

But we believe that it can be shown that this opinion, as to the analogy between these two classes of cases, has been too hastily assumed; and, without offering any opinion as to the propriety of gastrotomy for internal strangulation, or in case of intussusceptio, we would merely point out, that cases like that of Dr. Homolle's patient differ materially in some respects from such internal strangulations or obstructions; and that the points of difference are of such a nature as to show the propriety of operating on the same general principles which warrant us in doing so in ordinary cases of strangulated hernia. The principal objection to operations in cases of internal strangulations, is the uncertainty—both as to the situation and nature of the obstruction—so that the surgeon may find, after opening the abdomen, that he either cannot ascertain or reach the seat of constricted or obstructed portion of bowel, or that, having found it, he cannot, from its very nature, relieve it by operation. But in cases where strangulated hernia is reduced *en masse* by taxis, there are two points which appear to us as obviously indicating the line of practice. The first is, that in such cases the strangulation can scarcely arise from any but one cause, viz: constriction by the neck of the sac; and the second, which follows from the first, is the comparative fixity of position of the hernial mass, owing to the connections of the peritoneal sac; for when we reflect that the sac is formed by the parietal peritoneum, we at once see that, though the tumour be pushed back through the canal, it cannot be very far removed from its original position with regard to the internal opening, and that it will thus be retained within the reach of surgical interference; so that, whilst an operation affords the patient the only chance of relief, we have the advantage of a degree of certainty, both as to the position of the strangulated intestine and as to its cause; and for these reasons we consider operation in such cases not only warrantable, but imperatively demanded; and the successful results of M. Robert's operation will, we trust, lead to its general adoption.

ART. 38.—*History of a Case in which a Foreign Body lodged in the Œsophagus for nearly five months, and proved fatal by producing an ulcerated passage into the Trachea.* By ROBERT PATERSON, M. D., F. R. C. P. E.

(*Edinburgh Med. and Surg. Journal*, Jan. 1849.)

M. R., a stout, healthy, intelligent, and lively girl, of from 5 to 6 years of age, was amusing herself with some companions, in the beginning of November 1847, with a set of German toys. They had been manufactured into a tea-set, composed of plates, cups, saucers, &c., the edges of which were roundly indented or scalloped, and the body of them hollowed out like shallow basins. While putting one of them into her mouth, one of her companions struck her under the chin, which caused her to swallow the toy. Being frightened at what had occurred, she immediately ran and informed her parents, and a neighbouring apothecary was immediately sent for. She had vomited, however, before he reached the patient's abode. He examined the pharynx and throat, and, finding nothing there, administered an emetic which speedily acted well. She afterwards swallowed some tea and bread, and ate it apparently with relish, swallowing it without the slightest difficulty. The same evening about bedtime, she expressed to her mother the belief that she had just swallowed the toy, for that she felt it distinctly pass downwards. After passing a rather restless night, she awoke next morning slightly feverish, and continued so for a few days. She never, however, complained of pain in the throat or the least difficulty in swallowing. The only complaint was a trifling degree of epigastric tenderness, which was attributed to the irritation produced in the stomach by the presence of the foreign body, which was supposed to contain, in addition to its amalgam of zinc, a small quantity of arsenic.

For four months after the occurrence above related, the child continued apparently quite well. She was lively, went to school, took her food as usual, and no change whatever was observed by her parents or friends upon her appearance, appetite, health, or habits. The foreign body, however, was not ascertained to have been passed by stool, although frequent purgatives had been administered for the purpose, and the egesta had been carefully and anxiously examined.

On the 22d of February, nearly four months after the swallowing of the toy which we have described, this child was suddenly seized with an attack of croup. She had been exposed to the damp air of the preceding night, to which her mother attributed the croupy attack. The symptoms were characteristic, and there was considerable accompanying fever. Leeches were applied to the throat. She had an emetic and the warm-bath; subsequently a blister was applied, and the prominent symptoms of croup disappeared. It was not till the second day after this attack that I was informed that she had been noticed to cough and eject whatever she attempted to swallow. This I at first attributed to the inflammation of the throat or of the upper part of the larynx succeeding the attack of croup. Next day, however, I had an opportunity of witnessing her attempt to swallow both liquids and solids. These were taken with avidity, but whenever they reached a certain point, violent coughing and ejection of the morsel or mouthful of fluid immediately took place. Although the symptoms of croup had now entirely subsided, and the breathing was quite soft and free, and unaccompanied with any roughness, still the pulse kept frequent, and the skin hot. The throat was carefully examined both internally and externally and nothing could be seen or felt to account for the peculiar symptoms.

My friend Dr. Coldstream now saw her along with me, and, after careful and patient investigation of the anomalous symptoms presented, we came to the conclusion, that the peculiarly harassing symptoms of this case must either arise from an œdematous state of the *rima glottidis*, from ulceration of the œsophagus itself, or from the foreign body still being present somewhere about the lower part of the pharynx or œsophagus. With the view of assisting our diagnosis as much as possible, we determined to pass the finger down the pharynx as far as possible, and if that did not yield any satisfactory result, to

pass down a flexible tube into the stomach with the view of ascertaining if any constriction of the œsophagus existed, or if any foreign body still was lodging in it.

Dr. Coldstream and myself having both carefully examined with the finger the state of the pharynx and upper part of œsophagus, as well as the opening of the glottis, without being able to discover anything abnormal, a tube was then passed down into the œsophagus, which entered easily and proceeded rapidly at first, but was soon arrested by something, and on pressing it slightly onward, air began to pass through the hollow tube. The same result followed all the attempts made both by Dr. Coldstream and myself.

The diagnosis of this case now became a little more distinct. That an opening existed between the œsophagus and trachea was most probable; but whether this was the result of simple ulceration, or arose from the pressure of the foreign body, it was impossible to determine. The only course of treatment, however, which was left to us, was that of allaying irritation and supporting the rapidly failing strength of our little patient. With this view, nutritious enemata, with small quantities of morphia, were repeatedly administered,—not a morsel of food nor a drop of fluid being apparently swallowed. She continued to be nourished pretty well at first. But soon the strength began to fail. Emaciation was rapidly increasing.

She became feeble, totally exhausted, and died calmly on the 20th day of March, 1848, being twenty-six days from the occurrence of the sudden attack of croup, and nearly five months after the date at which the foreign body was accidentally swallowed.

The *post-mortem* examination revealed the true state of matters. The foreign body was found fixed in an opening between the œsophagus and trachea, about five inches down. The œsophagus was opened from behind. The *rima glottidis* and upper part of the trachea were quite healthy; but a short way down the œsophageal tube was seen the foreign body, and about a third part of it was inserted into an ulcerated fissure which communicated with the trachea. The fissure was about one inch and a half in length, with an inflamed margin; the mucous membrane around the foreign body was all more or less inflamed; the calibre of the tube beneath was much smaller than that above the foreign body. The tin saucer lay with its cup-like cavity upwards, completely filling the calibre of the œsophagus, and so placed, that, upon fluid being poured into its cavity, it at once trickled through the ulcerated opening into the trachea. The interior of the toy was incrustated, especially at the most depending part, with a white, cretaceous-looking deposit, very similar in appearance to the urinary phosphatic deposit.

The *post-mortem* examination therefore explained, in the simplest and clearest manner, the symptoms presented by this somewhat singular case.

The foreign body, when first swallowed, had obviously never passed beyond the point at which it was found.

Its rough edges had been the means of arresting its progress downwards.

At first it must have been lodged in a somewhat upright position, to enable the boluses of food and the liquids drank to pass readily over its smooth convex or lower surface.

The ulceration had no doubt been proceeding slowly for some time; but on its suddenly causing perforation of the trachea, the attack of croup commenced.

On the occurrence of the perforation into the trachea, it is most probable that a certain change took place in the position of the foreign body. Its lower edge had slid forward into the ulcerated opening, and the body of it had fallen backwards, thus filling completely the calibre of the œsophagus, and presenting its cup-like cavity upwards, or rather in a slanting direction.

It may be remarked, in conclusion, that two circumstances, both clearly pointed out, might have been had recourse to, with the prospect of relieving the patient and prolonging her life.

First. A pair of œsophagus forceps might have been introduced, and the foreign body caught hold of and extracted.

Secondly. It was a good case for the operation of œsophagotomy, had the former not been practicable.

In addition to both of these circumstances, I would remark, that the swallowing and progress of the foreign body were veiled in much obscurity. There was probable reason to believe, that it had been perfectly swallowed, and, although not passed by stool, it might have been lodging in the stomach or some other part of the intestinal canal. The child was perfectly well, playful, and happy, eating and drinking with appetite, until the sudden occurrence of the croup, and which, too, came on, let it be remembered, after exposure to cold and damp. Further, even after the flexible tube was passed into the œsophagus, it could not be determined that it came against a foreign body, but only seemed to be slightly arrested, and the air then passed through it. This was accounted for by the cup-like cavity of the foreign body having been found filled with the remnants of the food attempted to be swallowed. There was no pain externally, or swelling in any part of the neck. The foreign body, in fact, lay immediately behind the upper part of the sternum. (See Report on the Progress of Surgery in this Volume.)

ART. 39.—*A Case of Suffocation from the Closure of the Glottis by a Piece of Meat.* By RICHARD PAYNE COTTON, M. D.

(*Medical Gazette*, Dec. 8, 1848.)

A maid-servant, aged 23, in the family of a well-known surgeon at Kensington, was waiting at dinner, and after removing one of the dishes, ran hastily into the kitchen, in a state of extreme distress, which she was unable to explain otherwise than by pointing to her throat: in a few moments she fell upon the floor struggling violently, and in another minute was dead.

An opening was made with all possible expedition through the crico-thyroid membrane, but the moment when this might have saved her life, it had unhappily fled. All was conjecture as to the cause of this painful event: the throat was examined without leading to an explanation; on looking into the mouth, nothing but a large amount of saliva and mucus could be seen; and, although there was a suspicion of the real history of the case, nothing could decide it prior to the *post-mortem* examination.

On the following day, by an order from the coroner, I proceeded to examine the body, when the following appearances presented themselves:

The face and neck were much congested, and of various shades of blue and purple, and the superficial veins generally distended with very dark blood, whilst the intervening skin was pale and flaccid.

Both the abdominal and thoracic cavities were in a healthy condition, but the organs within them greatly engorged with a dark fluid blood.

On removing the larynx, with the neighbouring parts, a piece of meat, weighing about six drachms, was found firmly wedged in between the alæ of the thyroid cartilage, pressing the epiglottis downwards, and the arytenoids forwards, so as completely to close the opening of the glottis; the former was somewhat twisted upon itself, in such a way that, whilst one of its lateral margins was pushed downwards upon the posterior surface of the latter, the other was turned upwards, as if from a violent expiratory act, taking place probably as a last effort. The morsel was so firmly pressed forwards beneath the base of the tongue, that, had the mouth been opened during the struggles of the patient, it would certainly have escaped notice; and a probang passed down the œsophagus might easily have slipped over it unobserved. The piece of meat was of a triangular shape, and placed with the apex forwards, the base of the triangle measuring two inches and a quarter, which will sufficiently account for it not passing the thyroid cartilage, the width of which, at the commencement of the superior cornua, does not commonly exceed an inch and a half, and is not very readily extended.

Although this case adds to the number of those chiefly interesting from its rarity, it is not without its practical lesson. Where sudden asphyxia occurs under similar circumstances, a recollection of it might lead to suspicion of the cause, and the life of the unfortunate person be preserved.

I think that in most instances it would be found an extremely difficult operation to remove the morsel with the fingers or forceps, and the attempt might in-

crease the spasm, and be the means of losing the few precious moments at our disposal; certainly, in such a case as the present, it would have been useless, even had the meat been less unfavourably situated, both from the urgency of the symptoms, and the violent struggles of the patient. I believe that laryngotomy or tracheotomy would be the proper practice, and might be performed with the less hesitation from the comparatively little risk attending it, as the opening could be closed very shortly after the real cause of danger had been removed, and which the operation itself might effect by admitting air from beneath, and thus forcing up the epiglottis.

It is an interesting question, whether the presence of foreign bodies lodged in the pharynx or upper part of the œsophagus, and pressing more or less upon the larynx or trachea, can produce suffocation by the supervention of spasm.

All the fatal accidents from imperfect deglutition on record, with, perhaps, one exception, have resulted from mechanical closure of the glottis; and as there is abundant evidence that pressure upon the vocal apparatus, produced by tumours, or foreign bodies lodged about the thyroid cartilage, has given rise only to stridulous breathing, far short of threatening suffocation, it may, perhaps, be inferred that, as a general rule, spasmodic action of the glottis, unless caused by a severe amount of obstruction, is insufficient to cause death. The truth can be ascertained only from experience; but the cases hitherto supposed to show that mere spasm may be fatal, are far from conclusive on the point. In that referred to above, and which is recorded in the second vol. of the "Dublin Hospital Reports," although but slight pressure existed upon the trachea, the right subclavian artery, which took an irregular course, was wounded by a piece of bone, and the consequent effusion of blood into the cellular membrane of the neck must have greatly complicated the result. Dangerous spasm would, of course, be less likely to result from tumours, in consequence of their gradual development; and, in the case of foreign bodies, much might depend upon their position. If upon, or closely bordering to, the aperture of the glottis, a permanent spasm would be likely to result from the reflex attempt to resist their entrance, similar to what occurs from the presence of irrespirable gases, and in drowning; but if at a lower point, the muscular movements would more probably be of an irregular kind, chiefly directed to their dislodgment, and not so particularly to the protection of the glottis. As the matter, however, can be decided only by an examination of cases, and these are, happily, not very common, I considered the present one should be recorded; for, although it does not deny the possibility of spasm, it contributes to the list of the few already known in which such did not produce the fatal result, and may thus afford negative evidence that death in such cases is comparatively rare from that cause.

SECT. III.—TREATMENT OF SURGICAL DISEASES.

ART. 40.—*Farther observations regarding the Use of Collodion in Practical Surgery.*

[In the last volume of this Journal, we published an abstract from the "American Journal of the Medical Sciences," April, 1848, regarding the employment of this newly-discovered adhesive fluid as a substitute for sutures and adhesive straps; and in our Report on the Progress of Surgery, in the same volume, Mr. Ancell entered very fully into the advantages of this new mode of dressing, and the method of applying it: and to these two articles we beg to refer our readers. The importance of the discovery, however, induces us to subjoin, from the February number of the "London Journal of Medicine," the following summary of what has been written regarding its various practical applications in surgery: nor have we deemed it advisable, with a view to a complete summary of our present knowledge on the subject, to omit one or two slight repetitions of facts already noticed by Mr. Ancell.]

1. *In wounds, ulcers, and other external lesions, it has been employed with great success.* In the "American Journal of the Medical Sciences" for April, 1848,

its discoverer, Mr. Maynard, of Boston, states that Dr. Whitney had employed it in the removal of a wen from the head. To obviate the occurrence of erysipelas, from the presence of sutures, Dr. Whitney shaved the hair from the scalp, and by means of the cotton solution, glued some pieces of sheepskin on each flap, at a short distance from the wound. These straps were then brought together, and retained in their position by sutures. The wound healed favourably; and pain and the usual accidents arising from the presence and removal of sutures were entirely obviated. Mr. Maynard also mentions that Dr. Comstock, of Wrentham, U. S., "has recently employed this liquid as a dressing, in a case of extensive laceration of the perineum, with a success that, he thinks, never attended any other mode of management. The dressings remained firmly attached, and solid, during the process of healing, notwithstanding they were for a time almost constantly covered by urine and mucus, and subject to being displaced by the motions of the patient." The "Monthly Journal of Medical Science" for July, 1848, contains a report of a paper "On Solutions of Gun-cotton, Gutta-percha, and Caoutchouc, as dressing for wounds," read by Dr. Simpson before the Medico-Chirurgical Society of Edinburgh. He had employed collodion, with perfect success, in some cases of painful fissures at the base of the nipple. Having brought together the edges of the wounds, he applied the collodion, which formed a protection against all irritating influences, and permitted the child to suck, without causing, as it previously did, pain to the mother, or disturbing the dressing. The healing process took place rapidly. Mr. Erasmus Wilson (*Lancet*, Nov. 18, 1848, p. 553), says that, in two instances of chapped nipples, in which he used it, it seemed to "work a charm upon the painful skin. The gaping cracks were instantly drawn together, and almost obliterated, by the contracting power of the remedy; and were effectually shielded from the influence of moisture, and the pressure of the gums of the infant, in consequence of the rapid evaporation of the ether in an instant of time." Dr. Simpson also mentions, in the above-cited communication, that, in a case where Professor Miller had removed a portion of necrosed bone from the lower jaw, he (Dr. Simpson) dressed the wound with collodion, with the effect of retaining its edges in apposition. Mr. Brown made a communication to the Westminster Medical Society, Dec. 3, 1848, stating that he had used collodion with advantage, in cases of sore nipple. (*Lancet*, Dec. 23, 1848.) The "British American Journal," for August, 1848, states that Dr. Payne, dentist, of Montreal, appears to have suggested the use of the collodion in burns; and Dr. Crawford, of the same city, employed it in the case of a young gentleman who met with a severe burn of the face and hands. The burn was covered with a thin glazing, which completely excluded the air, and the pain almost immediately subsided. Its utility in burns has been confirmed by other practitioners. In the "Dublin Medical Press" for October 4, 1848, Dr. T. R. Mitchell gives the result of his experience of the use of collodion in ulceration of the os and cervix uteri. He considers it greatly superior to nitrate of silver for forming an artificial covering to the ulcer, and permitting the healing process to go on underneath. The ulcerated surface being wiped clean and dry with soft lint, the solution is rapidly applied with a camel-hair pencil, and allowed to dry; a second, third, and fourth coating, if necessary, can then be applied. The first application is attended with a slight burning sensation, caused by the ether, followed by a sensation of coldness, from its evaporation. The application requires to be renewed at the end of forty-eight hours, as the mucus collects beneath the dressing, and raises it. In cases of simple abrasion, three dressings have proved sufficient; in more obstinate cases, he has employed caustics first, and then covered the eschar with collodion, thus curing extensive ulcers in half the time required by other methods. He has also found it beneficial in cases of vaginitis without ulceration. In the "Annales de Thérapeutique" for September and October, 1848, p. 241, it is stated that M. Jobert, of the Hôpital St. Louis, and M. Robert, of the Hôpital Beaujon, have successfully employed it as a dressing for wounds made in operations. Dr. Yvonneau, jun., of Blois, communicated to the "Union Médicale" for Nov. 18, 1848, the particulars of a case in which he had employed collodion, with an amount of success exceeding his expectations. The patient, a child of five years old, had

extensive fistulous ulceration of the right cheek, permitting the escape of saliva, as well as of food and drink; the cheek had also contracted very firm adhesions with the gums of both jaws. After an ineffectual attempt to remedy the mischief by a common mode of operation and dressing, he determined, as a last resource, to try the effect of collodion. Having obtained anæsthesia by means of chloroform, he carefully brought together the edges of the wound, and retained them in their position by long and firmly agglutinated bandages, passing completely over the chin, upper lip, and ala nasi. Over the whole he applied a layer of collodion, which, besides its adhesive property, completely protected the dressings from the saliva and food, which had been the main causes of the failure of the former operation. At the end of three days, a slight displacement of the dressings rendered readjustment necessary, when the edges of the wound were found united to a considerable extent. On the eighth day, the dressings were again removed; when, in place of the enormous fistulous opening, only a small cicatrix was found, which at length almost disappeared. The collodion, in this case, appears to have been of service, not only in preventing the dressings from imbibing fluid from without, but also by preventing the escape of saliva externally through the wound. The healing process does not seem to have been retarded by its presence in the interior. M. Yvonneau is of opinion that collodion might be advantageously used in the operation for hare-lip. He also states that he employed it in a case of wound of the first joint of the thumb, with disease of the ends of the bones, produced by the bite of an ass. Having performed resection of the diseased ends of the bones, he retained the thumb in an immovable position, by means of linen bandages soaked in collodion. The result, however, he was unable to state, as the patient was still under treatment at the time of his making the communication. In the "Lancet" for Dec. 9, 1848, we find that Mr. Tucker, of Berners street, had been successful in restraining severe hemorrhage from leech-bites by means of compresses of lint dipped in collodion, and applied to the bleeding orifices. Where oozing appeared, the solution was applied by means of a camel-hair pencil; it was also applied freely round the edges. In the same journal, for January 6, 1849, Mr. R. T. Wyld recommends it in the hemorrhage from leech-bites. Dr. W. H. Ranking, of Norwich (Lancet, January 13, 1849), says that he has caused it to be applied, with much advantage, to the incisions after cupping. Dr. Muirhead, of Glasgow (Lancet, January 27), says that he has seen great benefit arise from its use in bed-sores.

2. *Cutaneous diseases*.—Mr. Erasmus Wilson has employed collodion with great benefit in these affections. In the "Lancet" of Nov. 18, 1848, he describes the case of a young lady, "who had been suffering for many years with scrofulous ulceration of the skin, in various parts of the body. She had been under my care," he says, "for several months, and the sores were much improved; but they were nevertheless very far from being healed. The diseased skin had the appearance of being worm-eaten, its hollows were filled with pus, which burrowed under the surface, and it was moreover thickened and congested. By the constitutional treatment which I had pursued, I had, to a great measure, corrected the pyogenic tendency of her system; but I felt the want of a local remedy that would serve as an impermeable covering to the surface—in fact, take the place of the lost epidermis, and act the part of an artificial scarf-skin. I had tried vulcanized caoutchouc spread with adhesive plaster, gutta-percha, nitrate of silver, astringent solutions, ointments, and pressure by bandages in vain—the remedy was not as yet found." Having received some collodion from Messrs. Bell, of Oxford street, he determined on applying it, and "on the next visit of the patient, removed the dressings from the sores, and pencilled them over with the new agent, which covered the surface with a powerfully adhesive film, of about the thickness of gold-beaters' skin, and effectually represented the lost scarf-skin. A piece of dry, soft linen was the only additional covering required; and she left me, much delighted at the abandonment of the local applications and bandages. This young lady has since continued to apply the collodion herself, night and morning, until the present time, when the sores are nearly well, and the congestion and scrofulous thickening of the skin almost gone." Mr. Wilson says further: "The diseases of the skin in which I have

hitherto used the collodion with advantage are chronic erythema of the face, intertrigo, chapped nipples and chapped hands, herpes labialis, preputialis, and zoster; lichen agrius, lupus non exedens and exedens, acne vulgaris, and several affections of the sebiparous organs. In chronic erythema of the face, its contracting power was most usefully evinced, as it was also in lupus non exedens and acne. In a troublesome case of chapped hands and fingers, resulting from chronic lichen agrius, the collodion acted not merely as a protective covering, but also promoted the healing of the cracks more quickly than the remedies I have been in the habit of employing. In four instances, it immediately put a stop to herpes labialis, and in a very severe attack it showed itself to be a powerful and useful remedy. Small superficial ulcerations of the corona glandis and prepuce, caused by excoriation, were cured by a single application; and in a gentleman very susceptible of excoriation, it acted as a prophylactic. From the success of the latter trial, I am induced to think that it might be usefully employed as a prophylactic, in cases of exposure to syphilitic contagion." In his paper in the "*Lancet*," already quoted, Dr. W. H. Ranking says: "I have not had an opportunity of trying this preparation in variola, but I would suggest it as a valuable application to the face, &c., for the purpose of excluding air, and thus preventing pitting. The same effect is produced by tincture of iodine, a solution of nitrate of silver, Vigo's plaster, mercurial ointment, &c., but it strikes me that collodion offers a peculiarly ready mode of obviating deformity. I need not refer to the fact that the development and maturation of the variolous pustule are in some way connected with the contact of air, as it is always more decidedly and abundantly formed on the face, hands, &c., and is more sparingly developed on the hairy scalp of the adult, while on the scalp of early infancy it makes the same progress as on the face."

3. *As a stopping for teeth.**—In the "*Lancet*," for 30th December, 1848, p. 729, Mr. J. Robinson, dentist, Gower street, states that he has "frequently applied collodion in severe cases of toothache, arising from exposure of the nerve, with perfect success, when no persuasion could induce the patient to submit to extraction." The method which he adopts is to let the patient first wash the mouth with warm water, in which a few grains of bicarbonate of soda have been dissolved. He then removes from the cavity any foreign substance likely to cause irritation. After drying the cavity, he drops from a point the collodion, to which have been added a few grains of morphia, after which he fills the cavity with asbestos, and saturates with collodion. Lastly, over this he places a pledget of bibulous paper. In a few seconds the whole becomes solidified, and forms an excellent non-conductor of heat and cold to the exposed nerve. By occasionally renewing this, he has been enabled to effect a more durable stopping with gold-leaf.

ART. 41.—*On the Treatment of Ulcers of the Lower Extremity.*

By GEORGE CRITCHETT, F.R.S., &c. &c.

(*Excerpta from Six Clinical Lectures*,† *Lancet*, Oct. to Dec. 1848.)

Classification of ulcers.—Ulcers may be divided into simple or local, and specific or constitutional.

I again divide the simple or local into acute or spreading, subacute, chronic, healthy, irritable, and varicose; the specific or constitutional I arrange under the various heads of strumous, syphilitic, phagedænic, periosteal, menstrual, œdematous, and malignant. Each of these classes of ulcer has certain characters and symptoms by which it may be recognized, and requires for its successful treatment certain modifications of local and constitutional appliances; and as in medicine and surgery generally, so especially in the particular form of disease we are now considering, your success in curing will not depend so much upon the multiplicity of your remedies as upon your power of recognizing

* This idea likewise suggested itself to Mr. Ancell, and the successful application of it is reported by him in the last Volume of our Journal.

† Since making these abstracts, we have received these lectures republished in a separate volume by Mr. Churchill.

the exact form of ulcer with which you have to deal, and the plan most suitable for that particular case.

General principles on which the treatment of ulcers is to be based.—In considering the principles upon which the treatment of ulcers of the lower extremity is to be conducted, I must remind you that the reason why ulcers are more frequently found in the lower extremity than in any other part of the body, and are more difficult to heal, and more liable to recur in this situation, is on account of the weight of the superincumbent column of blood weakening the vessels and impeding the circulation through the part. The truth of this will, I imagine, be admitted by all surgeons, though it has not, I think, been sufficiently clearly and forcibly insisted on by writers upon this subject. If this be so, it follows, as a necessary consequence, that the chief aim and object, independent of any specific treatment that the case may require, is to place the circulation of the lower limb on a par with the rest of the body; this object once accomplished, there is no reason why ulcers so situated should not heal as readily and as quickly as in any other part of the body, and such is, indeed, found to be the fact.

The next important question is, How is this desirable result to be accomplished? The answer that at once suggests itself to the mind is, remove the weight of the column of blood by the recumbent position; keep your patient in bed, and at perfect rest, and the ulcer will heal; and this is found to be actually true of a large majority of these cases—perfect rest, combined with the simplest possible treatment, will effect a cure; and in some few cases which I shall hereafter particularly point out, this plan is necessary. But there are many practical objections to this mode of treatment; persons engaged in the active pursuits of life, whether rich or poor, find it very inconvenient to keep their beds for two months, or even for a longer period sometimes. Then, again, a cure obtained on these terms is very apt not to be lasting; but as soon as the patient moves about again, and hangs down the limb, in spite of every precaution the weak cicatrix will give way, and the sore speedily becomes as bad as ever. Surgeons are unwilling, upon such terms, to admit these patients into hospitals, and thus both doctor and patient become tired of this plan, and the latter often puts up with the pain and annoyance of a bad leg for a considerable part of their lives, trying a thousand different nostrums, and at last giving it up as hopeless. I have met with cases of this kind that have never been healed for five-and-twenty years. Is there, then, no other way besides rest in which the circulation in the lower extremity can be brought to a par with the rest of the body? I reply, with a confidence based upon extensive personal experience, and upon extensive observation of the same practice in other hands, that there is a plan more rapid, more certain, and far more lasting, and more applicable to a large majority of these cases, than rest, and that is, “uniform and complete support to the entire limb, which, I maintain, cannot be obtained by the ordinary bandage, however skillfully applied, but is only to be efficiently accomplished by a proper application of strapping, so as completely to envelope the limb from the toes to the knee.

On the means of affording complete and uniform support to the entire limb in the treatment of ulcers of the lower extremity. I will now proceed to explain to you, in detail, the method I recommend you to adopt, in order to accomplish a complete support of the entire limb. You must seat your patient opposite to you, and support his foot upon a small stool, about a foot and a half in height, and so constructed as to receive the point of the heel and leave the rest of the foot free. You should be provided with strips of plaster, about two inches in width, and varying in length from twelve to eighteen inches, according to the size of the limb. The best material for this purpose is the simple emp. plumbi of the Pharmacopœia, spread upon soft unglazed calico, and free from resin, which is often introduced to increase its adhesiveness, but which is very liable to irritate the skin. If the plaster be well made, and of the best materials, it will adhere perfectly; I have often found it unmoved for many weeks, and even months. It is convenient to provide yourself with a metallic warmer, made with a flat top, upon which you can lay three or four pieces, heated either by hot water or by small lamps, which are better, if you require it for any length

of time. This form of warmer is far preferable to the circular one ordinarily in use, saving both time and trouble. But to proceed. You then take the centre of the first piece, and apply it low down to the back of the heel, and then, with the flat part of both hands, press the plaster along both sides of the foot. This, however, according to the size of the limb, must now be applied, to keep the plaster in its place, and the limb is supported in the most complete and efficient manner that human ingenuity has yet devised. None but those who have practically tested the matter can estimate the immense difference between mechanical support so obtained and the most accurate bandage that was ever applied; it is, in fact, far greater than mere reasoning upon the subject would lead you to expect; and whilst it accomplishes all that rest can do for the ulcer, in many cases it does a great deal more, enabling the patient to pursue his ordinary avocations, and at the same time healing the wound more rapidly, and far more lastingly, than the most complete rest would effect.

On the treatment of chronic ulcers.—I will now describe to you what appears to me to be the best method of managing these chronic ulcers. You will often find that, when these cases first present themselves to your notice, the surface of the ulcer is foul and unhealthy; it is desirable, if possible, by means of a few days' rest and suitable applications, to obtain a healthy surface to start with, as it renders the subsequent treatment more immediately efficacious, and hastens the cure. Still it will often be found in practice that even this short period of repose is most difficult to obtain, involving, perhaps, serious loss and inconvenience to the patient; and though desirable, it is by no means necessary to ultimate success, as I have had abundant proof in my own practice.

In cases where rest can be thus obtained, and where the ulcer is indolent, and at the same time foul and unhealthy, the red precipitate powder is very useful in producing a new and more healthy surface; it should be sprinkled on rather thickly, and allowed to come off spontaneously in a congealed cake or mass; one application is usually sufficient. The principal objection to it is, that it often occasions severe pain for many hours. In making anything like an estimate of the facility, rapidity, and certainty of your success in curing these cases by the method I am about to detail, a most important element to be considered is the situation of the sore: if it be placed about the middle or above the middle of the leg, and the surrounding parts are of a bluish colour, and not very readily emptied by pressure, all that is required is a tolerably tight, complete, and uniform application of strapping to the entire limb, and the sore will rapidly heal. In such a case, a mere tyro will generally be successful; but if, as is very often the case, the ulcer is situated over either malleolus, or in the space between the malleolus and the heel, the mechanical management becomes far more difficult, and the cure more tedious, and, in inexperienced hands, often impossible. The great difficulty arises from the fact that the parts immediately surrounding the sore require a much greater amount of pressure than the rest of the limb will bear. In order to accomplish this, it is better to commence with the application of the short strips of plaster in the way I have already described, putting the first piece some inches below the wound, and covering all that part that is discoloured and indurated: these short strips should be drawn as tightly as it is possible to pull them; after this, the limb must be completely supported, and in doing this, those strips which are applied over the foot and by the side of the ankle must be drawn tightly; but, when you begin to encircle the small part of the leg, it must be done with less force. The perfect power of thus moderating pressure in different parts of the limb, and also of forming a correct estimate of the amount of tightness each particular case requires, shows the master of this branch of mechanical surgery, and is only acquired after some considerable attention and practice. It is one of the very great advantages also that strapping possesses over any kind of bandage, in thus enabling you to modify the amount of tightness in different parts of the leg, whereas a bandage can only be applied with the same amount of force throughout; and practically, it is found often to become loose where pressure is most needed, and to get tight around the small part of the leg, where it is injurious.

If, then, you carefully apply the strapping in the way I have directed, and

regulate the tightness by the rules I have laid down, you will almost invariably find, when your patient again presents himself at the end of two or three days, that the strapping you applied tightly has become loose; this is not because it has in the slightest degree given way, but because the swelling and inter-cellular deposit have been to a certain extent removed by the effect of the pressure: this is a very favourable sign. The strapping must now be reapplied as tightly as before, and in two or three dressings the wound will assume a healthy aspect, and the discharge will become thicker and more creamy. In cases where there is a considerable amount of thickening and induration, it often happens that the ulcer will not commence healing until all this has been removed by the pressure; it is necessary to renew the application more or less frequently, according to the size of the wound and the nature of the discharge. If the wound is large, it is better to dress it at first every day; whenever, also, the discharge continues thin, it is necessary to change it frequently, but as it gets thick, every third day is sufficient; and there is a class of cases sometimes met with in which the discharge is very thick and tenacious, and clings to the sponge, in which the wound heals rapidly, and the strapping may be allowed to remain on for a week. I should say, as a general rule, that twice a-week is sufficiently often for the majority of cases. If you steadily pursue the plan I have now detailed, it matters not how considerable the deposit may be, nor how long the ulcer may have existed (I could almost say, from my own experience, the longer the better). You will almost invariably succeed, not only in healing the sore, which is, after all, but half a cure, but also in getting rid of all thickening and enlargement, and restoring the limb to its natural shape, and the vessels to a comparatively healthy condition, bringing out the malleoli into "relief," as artists say, which may have long lain buried beneath a mass of morbid deposit.

On the treatment of specific ulcers.—With regard to the treatment of specific ulcers, the point I am anxious to insist upon, and of the truth of which I have had abundant proof in my own experience, is, that, when it becomes located in the lower extremity, it seems to establish itself there, and to continue long after the constitutional diathesis to which it owes its origin has been removed by suitable remedies, or has at least become so feeble as not to produce any similar disease in other parts of the body, or in the leg itself, when once it has been soundly healed, and the circulation through it brought to a normal condition. Under these circumstances, the ulcer will maintain its original form and specific character, but yet is capable of being cured by local means only. The object in these cases is not only to heal the wound you find open at the time of treatment, but, at the same time, to induce such a healthy flow of blood through the limb as shall prevent the formation of a new morbid deposit, as it is this which renders this disease so intractable. I am induced to take this view of the matter from finding the strumous and phagedænic sores continuing in the lower limbs after every variety of constitutional treatment has been persevered in for a length of time, and after every trace of disease has left other parts of the body, and also after the usual local treatment, including prolonged rest, has been tried in vain. Moreover, it is a curious fact, that I have often observed, that rest exerts but a very slight influence over specific sores.

The strumous ulcer is the most difficult to manage. While there remains a mass of strumous deposit in the wound, of course it acts like a foreign body, and prevents the healing process from proceeding; art may be brought to the aid of nature in expediting its removal. Should the external opening be small in proportion to the strumous mass within, it may be enlarged with advantage. When two wounds communicate beneath, they should be laid into one; the red precipitate powder, or some strong escharotic, as the potassa fusa, will hasten the removal of the morbid deposit. This latter is, however, a very severe method, particularly in a weak strumous patient, and one to which I have very rarely felt justified in having recourse. When the strumous enlargement is just forming beneath the skin, I have found advantage from painting it over either with the tincture of iodine or the solid nitrate of silver; a weak solution of

iodine is also a very valuable application to strumous sores in the form of a lotion; other stimuli, particularly the *lotio nigra*, is often useful.

In that form of phagedænic ulcer which spreads in one direction and heals in another, it is sometimes advisable to destroy the peccant edge with some powerful escharotic, as nitric acid. In those cases where there is extensive burrowing in the cellular tissue, this would be a very severe method, and I think it quite unnecessary. It is a much better plan thoroughly to saturate small strips of lint with black wash, and with a probe thrust them to the very bottom of the wound, so as to bring the black powder into contact with every part of the ulcerated surface. In these undermining phagedænic sores, I have met with no application at all comparable to the black wash, when properly used; if it is left to the patient or a nurse, it invariably fails. Having selected, then, what I deem a suitable specific local remedy for these cases, and, having got rid of any slough or strumous deposit that may exist, I always superadd mechanical support, and my case-book and hospital experience bear ample testimony to the advantage of this combined plan, both in effecting a cure and in preventing relapses; either is insufficient of itself, but when the special character of the sore is met by a proper application, and the feeble vessels of the limb are restored to a healthy condition by strapping, a quick and lasting cure is usually established. These specific cases generally bear the support rather tightly applied, more particularly if the leg feels soft and doughy; but the same rules I have already laid down on this subject are equally applicable in these forms of the disease. Sometimes, when all seems to be progressing favourably, you will find a fresh enlargement forming beneath the skin; this will probably run through the same course as the others have done; it may even occur more than once; but you must not be discouraged by this; it is only the last expiring efforts at the re-establishment of disease in the limb, and will ultimately be completely overcome by perseverance. I have even known a few cases in which, the constitutional tendency still remaining in some force, the disease has manifested itself in some other locality, being unable to re-establish itself in a part that was protected, as it were, and kept in a healthy condition, by mechanical support. I do not here enter upon the subject of the constitutional treatment of these cases, which would involve the prolific questions of the general management of strumous disease, and of the secondary and tertiary forms of syphilis; but, of course, every judicious surgeon would combine a suitable course of medicine if he has reason to think any specific taint remains, supporting, at the same time, the powers of the system by a generous diet, this last point being, according to my observation, a most important element in success. In many of the cases that I have met with, and upon which I have founded the foregoing remarks, this constitutional treatment had been persevered in for a length of time before coming under my care, and subsequently also under my superintendence, but without success, and it has been this circumstance that has led me to rely so much upon mere local means, such as I have now recommended.

Occasionally, these specific ulcers are complicated with disease of the bone or the periosteum. This renders the case far more serious and intractable; and it is important that you should recognize this unfavourable feature in the case, that you may not mislead yourself and your patient with hopes that are not likely to be realized. Under these circumstances, the ulcer will not heal until the periosteal disease of which it is a consequence has subsided; and affections of this structure, however rapidly they may sometimes be developed, are extremely slow in subsiding. This constitutes the "periosteal ulcer:" two or more are generally found, and in their vicinity depressed cicatrices, adherent to the bone, at once indicate the nature of the case. The sore itself is generally raised, but the surrounding parts are hard and unyielding. I have nothing to suggest, in regard to the treatment of such cases, beyond what has been recommended by previous authorities. (See Report on the Progress of Surgery in this volume.)

ART. 42.—*Cystorrhœa—Discharge of Phosphatic Calculi—Cure by Injection.*
By THOMAS BALMAN, Esq.

(*Medical Gazette*, Dec. 1, 1848.)

Mr. P., a Peruvian gentleman, 58 years of age, generally of temperate habits, though habitually indulging in a most pernicious practice of charging his stomach with a glass of spirits before dinner, consulted the author under the following circumstances:—He states that he has always enjoyed good health until about four years ago, when he contracted a chancre, for which he took mercury; the sore speedily healed, and he felt no further inconvenience until some two or three months after, when he was attacked by symptoms of secondary syphilis, which also yielded at once to sarsaparilla and the usual remedies. With the exception of a slight attack of jaundice whilst in Peru, does not remember anything that in the least disturbed him in the exercise of his pursuits, either of pleasure or business, until the evening of the 2d July, when, after dining as usual in company with a friend, he was suddenly seized with retention of urine. A surgeon in the neighbourhood was sent for, but states the bladder was not relieved until the following morning, when a catheter was passed, and the water drawn off without any difficulty. It was found necessary to continue the use of the instrument for about a week, when it was laid aside, the bladder having sufficiently regained its tone. He continued subsequently to suffer from all the symptoms of chronic inflammation of the bladder up to the 24th of August, when the author saw him for the first time. He then complained of a frequent desire to void his urine, which was always attended with the most excruciating pain, referred chiefly to the glans penis: the passage of mucus, mixed with calculous matter, greatly increased his agony, by sometimes blocking up the passage so completely as to prevent entirely the escape of any urine. He was effectually relieved of this impediment by syringing warm water into the urethra.

His countenance presented that pale, anxious, and sombre hue, so peculiar to these affections; and the tongue was coated with a brown fur. The urine appeared to consist of but little else than a thick, glutinous mass of jelly, deeply tinged with blood, of a fetid, ammoniacal smell, alkaline, changing turmeric paper immediately brown. The quantity of gray calculous matter passed in the form of crystalline gravel, and in a semifluid state, was very considerable: the specimen brought having been carefully collected together a few days previously, was sufficient to fill a large pill-box. He was ordered a grain of opium night and morning, and an enema of poppy heads, with thirty drops of laudanum (the latter, however, causing constipation, was soon discontinued), lemonade as a drink, and rest in the horizontal position, &c. The more urgent symptoms having been relieved, he was directed to take the decoction of pareira with dilute nitric acid three times a day, continuing the opium at night.

Sept. 5.—Water still alkaline, increased in quantity, of a pale whey-like aspect, specific gravity 1.013; at other times, when passed in less quantity, as high as 1.030. Large fragments of calculous matter continued to be voided, chiefly in the evening. The nitric acid increasing the irritability of the bladder, he took instead the acetic, and subsequently the dilute, phosphoric acid in the same decoction.

14th.—Bore the phosphoric acid very well; quantity of mucus, or rather muco-purulent matter, diminished. I have said muco-purulent, because the deposit every now and then presented that appearance: and, moreover, the supernatant liquid, when distinctly free of any blood, *sometimes* coagulated both on the application of heat and nitric acid. From this time the bladder was washed out with warm water daily with great benefit.

26th.—The bladder was injected with the following:—Acidi hydrochlorici ℞; tr. opii ℥ss; aq. distil. ℥iv. This produced no pain, but brought on a second attack of retention of urine, arising evidently from the coagulation of the albuminous portion of the diseased mucus by the acid, which, finding its

way into the urethra, prevented the escape of any urine. Large masses of this shreddy substance were afterwards discharged, and in a few days the catheter, which had been rejected to relieve this temporary difficulty, was discontinued. The injection was again used, but much reduced in strength, without any of these unfavourable consequences occurring. From this period a great improvement took place: no sand or calculous matter had been voided since the first injection of the acid; irritability of the bladder greatly lessened; strength and appetite improved; and the tongue, which had before never varied in appearance, but always retained the characteristic brown coat, became almost suddenly clean, and the urine exhibited faintly its normal acid reaction. He took a decoction of matico, in place of tea, morning and evening, and a few drops of the tinct. ferri mur. twice a day, with some apparent benefit, until the 30th of October, when he was sufficiently well to go into the country, and has since returned convalescent.

Remarks.—Catarrh of the bladder occurring at an advanced period of life, whether arising from stone, stricture, enlarged prostate, or simply, as in the present case, from the deposition and subsequent incrustation of the mucous lining of the organ by some of the constituents of the urine, must always be viewed in the light of a very formidable disease, unless we can ascertain and speedily remove the cause. Now the “*fons et origo mali*” here clearly depended upon a morbid condition of the mucous lining of the bladder, which, by chemically acting upon the urine secreted by the kidneys, caused the deposition of the insoluble earthy phosphates: to correct which I administered the mineral acids. Both the nitric and muriatic were tried, but without any decided effect, weak doses being ineffectual, and increasing their strength only tended to make things worse by augmenting the irritability of the bladder. The acetic acid seemed to agree with the patient, but did not appear to do any good. The phosphoric acid, however, he continued to take for some time, and appeared to be of great use, both in giving tone to the stomach, and diminishing the quantity of mucus. After giving each of these remedies a fair trial, and assuring myself that no stone existed in the bladder, I determined upon attacking the disease by injections, and, as stated, with complete success: the secretion of earthy matter was immediately arrested, the irritability of the organ gradually subsided, and the dark fur which seemed to be permanently fastened upon the tongue began to disappear, and the urine, which before the injections had been constantly alkaline when passed, became neutral, and quickly assumed its normal acid reaction—a convincing proof, I think, that the studding of the bladder with phosphatic concretions was the cause of the alkaline condition of the urine, and not, as is very frequently the case, from disorder of the assimilative functions, in which case the urine would be secreted in an alkaline state by the kidneys.

There seems to be one very important point to be attended to as regards the strength of the acid injection, necessary to accomplish the solution and removal of the calculous matter deposited by the diseased lining of the bladder. At first I believe I used the acid of too great strength; the consequence was, that dense masses of concrete lymph filled the urethra so completely, as to prevent the escape of a drop of urine until a catheter had been passed. A large quantity of albuminous matter must, therefore, be secreted in these diseased conditions of the organ, which the acid will of course coagulate, causing much increase of suffering, if not more mischievous and fatal consequences. I should not again, therefore, venture on an injection of greater strength than two minims of the concentrated acid to four ounces of water, as recommended by Sir B. Brodie, always taking care to wash out the bladder, so as to free it of as much mucus as possible, with warm water, some days before, and immediately prior to, the operation.

ART. 43.—*On the Treatment of Stone in the Female.*

By BRANSBY COOPER, F.R.S.

(Medical Gazette, Feb. 2, 1849.)

Calcareous deposits, it is said, occur much less frequently in the female than in the male; but probably this assertion is not so correct as the frequency of the assertion would lead us to suppose; the rare occurrence of accumulation of calculous matter in the bladder may be easily explained from the shortness and large size of the meatus urinarius in the female. There is, in fact, no very apparent reason why the blood in the female should be purer, or why the kidneys should be better able to eliminate the due proportion of the natural constituents of the urine, unless it may be said, perhaps, that the usual mode of life is more regular, and the dietetic observances stricter. Sometimes, however, calculi do congregate in the female bladder, and the symptoms produced by their presence are very similar to those in the male subject, attended, perhaps, by more "bearing-down pain," in consequence of the irritation produced upon the uterus, and they suffer more from incontinence of urine, in consequence of the shortness of the urinary passages. Retention of urine is also a frequent result of stone in the bladder in the female, from the liability of the extraneous body to become impacted in the meatus urinarius, precluding the possibility of micturition, and requiring its immediate removal for the patient's relief. Some years ago, I admitted a patient (a girl of 12 years old) into Mary's Ward, who was the subject of retention of urine, and, upon examination, discovered a foreign body within the meatus. On attempting to extract it with forceps, I accidentally pushed it back into the bladder. I found it impracticable to remove the stone at the time, but proceeded immediately to dilate the urethra by means of a sponge tent; but this method produced so much pain that I was obliged to substitute the use of Weiss's urethral dilator, and, in a few days, was enabled to pass forceps into the bladder, and extract the stone without employing any cutting instrument. This mode of operation, if the stone be large, should not be adopted, as it would lead to the necessity for such dilatation of the meatus as probably to render it incapable of being restored to its natural size, and permanent incontinence of urine would be the result.

To remove large calculi, therefore, the patient should be placed in the same position as the male subject, and confined in the same manner; a straight staff is passed into the bladder, and held by an assistant; a knife is then introduced along the groove, and the incision made in the oblique direction downwards and outwards, between the vagina and ramus of the ischium, in the same direction as in the male, but of less extent; the forceps are then introduced, and the calculus removed.

I have twice performed this operation, and in both cases the patients recovered without any permanent incontinence of urine being the result; while in the case by dilatation related above, although the incontinence was not permanent, still it was many months before she had the power of perfectly retaining her urine. Many surgeons, indeed, recommend the operation of cutting in all cases, in preference to that of dilatation, in consequence of the much greater liability to incontinence in the latter mode; but I confess, from what I have been able to ascertain from the experience of others, I am led to believe that incontinence results as much from the one as the other operation, and am inclined to recommend dilatation where the calculi are small, and the use of cutting instruments where they are large.

Calculi in the female are frequently found to have concreted upon foreign bodies; and Sir Astley Cooper relates a case in which he removed from the bladder of a woman a calculus of which a large portion of a brass nail formed the nucleus. This calculus is preserved in the collection at St. Thomas's Hospital. The means by which substances have been introduced are too obvious to require any explanation. Mr. Cline's well-known case, in which a quantity of coal had been passed into the vagina, while the woman described herself to be the subject of stone in the bladder, is a further instance of that peculiar kind of depravity which not unfrequently falls under the notice of the surgeon.

The medical treatment of the premonitory symptoms to the formation of stone, the means of relieving the pain arising from its presence either in the kidney, ureter, or bladder, and the plan to be adopted to prevent the recurrence of the concretions after the calculi have been removed, are precisely similar to those which have already been recommended in the male subject. The danger in the operation for stone in the female is infinitely less than in that of the male, as would be readily conceived from the different conformation of the external generative organs. I once assisted Mr. Costello in an operation for the stone in a female at Greenwich, in whom the stone was so large as to preclude the employment of lithotripsy; and he therefore proceeded to the operation of lithotomy; on passing the forceps into the bladder and seizing the stone, from its size, the difficulty of removing it was so great, that he intentionally laid open the rectum to facilitate its extraction. The patient recovered without a dangerous symptom, but had afterwards permanent incontinence both of urine and fæces. The stone in this case weighed seven ounces.

The after-treatment is much the same as in the male subject, but, in addition, requires the introduction of an elastic catheter, to prevent extravasation of urine into the cellular tissue around the vagina. In such cases, where the stone is too large to be removed by dilatation, and yet not so large as to preclude the propriety of its being crushed, the operation for lithotripsy is highly applicable; but I think a lithotrite should be made expressly for the female, as the length of the instrument employed in the male would be inconvenient.

ART. 44.—*Varicocele treated by Pressure.* By J. R. THOMSON, M. D.

(*Monthly Journal*, Nov. 1848.)

The following pages have been written with the view of inducing surgeons to try a plan of treatment for the cure of varicocele, the nature and success of which seem little known to the profession in general. That it is little known, I am led to believe from conversations with our principal surgeons in Edinburgh on the subject; and from the fact that, in the medical journals of the day, little mention is made of this safe and successful method of cure. On the other hand, scarcely a periodical appears that has not a description of one or other of the numerous and hazardous operations that are continually practiced for the radical removal of this complaint.

Mr. Curling, of London, so far as I am aware, is the only one who has published cases of varicocele cured by this plan; and here I gladly seize the opportunity of acknowledging the benefit I have derived from what he has written on the subject.

In having recourse to any means for the relief or cure of varicocele, it ought always to be borne in mind that the affection itself is not at all a serious one; and, therefore, that no surgeon is justified in having recourse to any dangerous expedient for the removal of a disease only troublesome, not dangerous in its effects. If warranted in any extreme case—as when much pain is experienced, and when injury to the testes may be threatened—an operation ought only to be had recourse to when palliative measures and the method I am about to explain have failed in giving relief. Mr. Syme, and other judicious surgeons who have not yet tried this plan, seldom or never now have recourse to such dangerous procedures as those of Velpeau, Breschet, Ricord, &c., thinking it better to be content with palliative treatment, than to risk the lives of their patients by performing operations fraught with much danger. This palliative treatment consists of frequent bathing of the parts in cold water, together with the use of a suspensory bandage, or, in urgent cases, excision of a portion of the scrotum, to serve the same end more completely, and with less trouble to the patient. The curative measure we now propose is not more troublesome than an ordinary suspensory bandage, and certainly greatly to be preferred to the latter of these modes of trussing. We hope the day is not far distant when the details of such doubtful hazardous operations as those of Velpeau, &c., will only be interesting as matters of surgical history. As a means of accomplishing this desirable end, we confidently look forward to the *pressure* plan of treatment doing much.

In several instances I have recommended this practice to other practitioners; but only in a few instances, as yet, have I personally superintended this method of treating varicocele. The following is the only case that has been under treatment sufficiently long to render it worthy of detail.

CASE.—*Large varicocele on the right side, upwards of twenty years' standing, completely relieved by pressure.*—This varicocele, which consisted of a plexus of dilated veins wholly surrounding the body of the testicle, and extending up the inguinal canal, gave rise for many years to great uneasiness, consisting principally of a disagreeable sense of dragging and weight from the loins, and occasional sickness after much exertion. Standing long in one position gave rise to the same, and sometimes to a dull aching pain in the affected parts. The testicle of the affected side was not smaller, as often happens in such cases, but felt somewhat softer than that on the sound side. Two surgeons, who saw the case about four years ago, were of opinion that it was one of scrotal hernia, and accordingly recommended a spring truss to be applied. This was done for a time, but could not be persevered with, as the ordinary hernial truss did not prevent the tumour reappearing, when pain was produced to such an extent as to require immediate removal of the instrument. About this time Professor Syme was consulted, who soon detected the real state of matters. He immediately forbade the use of the truss, and ordered local bathing with cold water once or twice a-day, and that the trousers of the patient should be worn well braced up. By this means the trousers being worn so as to exert not only pressure over the scrotum, but considerable pressure on the dilated veins at the external ring, great relief was given to local and general, including mental, uneasiness.

As is common in cases of varicocele and other secret disorders in early life, there was great mental distress in this case, out of all proportion to the actual disease. At times the depression of spirits had been such as to interfere with all mental exertion of any useful description. Much of the relief afforded in this last respect, I have no doubt, was due to the assurance given, that the affection was not a serious one—at the worst, only an inconvenience. But that the relief mainly depended on the pressure exerted in the manner described was proved by the circumstance, that when trousers were used that did not admit of this bracing, the pain and many of the other symptoms immediately returned. Here it may be stated, that no sensible benefit had been derived from the use of the ordinary suspensory bandage. It was my knowledge of the effects of the bracing on the dilated veins that led me to recommend for this case a simple contrivance, that might exert the necessary pressure independently of the trousers. This bandage consisted of one strap or belt to encircle the abdomen, with a pad projecting from the right side of it, to be retained over the tumour in the inguinal canal, and the pressure there regulated by means of a thigh-strap. This afforded relief, but still was not sufficient to remove the disagreeable sensations already described.

Some time after this, I was much gratified to find, on reading Mr. Curling's valuable work "On the Testis," that he had recorded there two cases of varicocele, one of which had been completely relieved by pressure—exerted by Evans's patent lever truss—in twelve months, and the other, as subsequent observations* have shown, completely cured in fifteen months. Although opposed to preconceived notions of the indications to be fulfilled in the treatment of varicose veins, yet from what I had seen of the benefits of pressure, as already stated, I had no hesitation in giving Evans's truss a fair trial. Before applying it, Mr. Curling was consulted, when, on examining the case, he at once agreed with me in thinking it one of decided varicocele, and, moreover, very favourable for treatment by pressure. Accordingly Evans's patent (moccasin) lever truss was applied over the external ring. The patient, as the result of this trial, was not more astonished than delighted to find that, for the first time in his own recollection, no tumour appeared in the scrotum on rising from the recumbent posture. Now and then, however, the tumour reappeared when violent exercise was taken on horseback, or otherwise. From this

* London Med.-Chirurg. Transactions, vol. xxiv.

circumstance, and other reasons that will be mentioned in the subsequent observations, if space permit, I was led to invent a more efficient truss for this case of old-standing varicocele. This instrument consists of a small circular spring, with a pad attached to it, so constructed that it can be made to extend as little and as much beyond the external ring as may be thought necessary for the extent of the affection, or as the shape of the pelvis may require. On the outer surface of the pad is fixed the same simple lever-spring that I had made for the first truss, and is nearly the same as that on the moc-main truss—which I would recommend for slight and recent cases of varicocele *only*. To the free end of this spring is attached the ordinary thigh-strap, by which, while steady pressure is kept up over the inguinal canal, the pressure can be increased or diminished at will over the external ring. Since the employment of this last instrument, now ten months ago, though most violent exercise has been taken, preternatural dilatation of the veins has not once occurred: and during the whole of that period perfect immunity has been experienced from all the distressing annoyances of a varicocele. The patient is now apparently free from the disease, and both testicles feel alike natural.

ART. 45.—*New Operation for the Radical Cure of Varicocele.* By S. D. GROSS, M. D., Professor of Surgery in the Medical Department of the University of Louisville.

(*American Journ. of Med. Science*, Oct. 1848.)

The following operation, for the radical cure of varicocele, I have performed eight times within the last few years. The patients were all young men of good constitution, and they all recovered without a single bad symptom. The cure, so far as I have been able to learn, promises to be permanent in every instance.

During the operation, the patient may lie down, sit in a chair, or stand up, as may be most convenient. The scrotum, previously divested of hair, is rendered tense by grasping it behind with the left hand. A vertical incision, scarcely an inch in length, is made over the anterior part of the tumour, down to the enlarged veins, which are next carefully isolated from the accompanying duct, artery, and nerves, by a few touches with the point of the scalpel. This constitutes the first step of the operation. The second consists in passing a short, thick sewing-needle—a No. 1 of the milliner—underneath two or three of the larger trunks, and winding around it a stout thread, either elliptically, or in the form of the figure 8. The ligature is drawn with great firmness, so as to indent the coats of the vessels, and put an immediate stop to the circulation. The operation is finished by closing the wound carefully with one or two twisted sutures, or a few strips of court-plaster. The patient is now put to bed, the scrotum is supported with a silk handkerchief, and light diet is enjoined. At the end of twenty-four, or, at most, thirty-six hours, the blood in the constricted veins is sufficiently coagulated to justify their division, and the removal of the needle. This is readily effected by insinuating a narrow, sharp-pointed bistoury underneath the vessels, with its back towards the needle.

Should symptoms of inflammation arise after the operation, or, in other words, should the parts become red, tender, and swollen, recourse must be had to antiphlogistics, and to the application of cold water, or solutions of acetate of lead and opium. The patient may usually sit up in five or six days, and in a few more he may be permitted to walk about. The little wound soon cicatrizes, and the induration, caused by the coagulation of the blood between the testis and the seat of the constriction, gradually disappears by absorption. The period required for this rarely exceeds a month.

The advantages of the above operation are, first, its perfect simplicity and the facility with which it may be executed; secondly, its freedom from pain and hemorrhage; thirdly, the certainty with which we may avoid injury to the spermatic artery, duct, and nerves; fourthly, the little inconvenience or suffering which the patient experiences after it has been performed; and fifthly, the rapidity of the cure. These considerations will, I think, be found sufficient to

recommend this method to the favourable notice of practitioners. Most of the operations described in the books are complicated, severe, and dangerous.

It occasionally happens in this affection that the serotum is very flabby and pendulous. When this is the case, the cure will hardly be complete, unless the surgeon retrenches the redundant structures. I have been obliged to resort to this expedient only once in my operations. A portion of serotum, nearly of the size of a large hand, was excised with the scalpel, and the wound closed by the continued suture, which I consider far preferable, under such circumstances, to the interrupted or twisted.

ART. 46.—*Magneto-Electricity in Hydrocele.* By H. R. FROST, M.D., Prof. Materia Medica in the Med. College, State of S. C.

(*Charleston Medical Journal*, July 1848.)

In No. 3 of the "Southern Journal of Medicine and Pharmacy," a case is related by Dr. Ogier, of the efficacy of the above agent in promoting the absorption of the fluid effused in hydrocele.

From the results of its application, Dr. Frost was encouraged to make trial of the remedy in a similar case, and though the effects were not such as were anticipated, yet a cure was accomplished, and further powers in the use of magneto-electricity were developed. It is, therefore, in extension of the views furnished in the article referred to, that he publishes the following case:—

In July, 1845, the patient observed some enlargement of the serotum, but did not pay particular attention to it until the latter end of August, when the swelling was found to increase, but was not so troublesome as to cause uneasiness. In the month of November, he removed to the country, where he was actively engaged, and took some exercise on horseback, when he found the swelling to increase very perceptibly. Towards the spring it became, from its size, very inconvenient, and interfered much with his movements, especially in the saddle.

On his returning to the city, Dr. Frost was consulted, with the late Dr. Sinkler. It was decided that a trial should be made of electro-magnetism, and a battery was procured early in June, and used for three weeks without any apparent advantage. At this time the size of the tumour became quite inconvenient, and the stretching of the spermatic cord caused much pain. The author suggested the propriety of puncturing the tumour, as his patient's constitution was much enfeebled, and the approach of the hot months would render confinement to bed, from an operation, extremely irksome.

Early in July the tumour was punctured, without much pain being experienced, and nearly a pint of fluid was drawn off. Severe inflammation of the testis ensued, which did not subside under several weeks. At the end of this period, no return of the effusion was apparent: neither has there been any to this time; and there is every appearance of a perfect obliteration of the sac.

The practice in the above case furnishes matter for reflection, and probably for imitation. It is the application of a remedy to a purpose hitherto little suspected, and suggested wholly by accident. The explanation which would be offered is, that the stimulus of the electrical fluid gave increased activity to the vascular structure of the testis and serotum, disposing it, by an increase of that action, as by puncturing, or other irritation, to take on inflammation; since, in the results which followed, we have every reason to suppose that coagulating lymph was effused, and obliteration of the sac was effected. That such has been the case, is inferred from the circumstance of no return of the disease, though three years have elapsed. In the employment of this agent, the author would suggest that its use be limited to cases of recent occurrence, as it is those only which can be benefited. Where the sac has undergone morbid thickening, amounting almost to cartilaginous hardness, it is not presumable that much benefit will be afforded.

ART. 47.—*Description of a Truss to be worn in Cases of Congenital Hernia.*
By WILLIAM COATES, M.R.C.S.

(*Medical Gazette*, Sept. 29, 1848.)

The author remarks, that there are few surgeons who have not been hampered in the management of hernia, occurring in very young infants, either from the want of tact in nurses—the impatience of restraints—the necessity of removing the truss during washing and dressing, when the infant usually cries—the falling which frequently occurs—or from the expense of a constant supply of new trusses, occasioned by the rotting and destroying influence of urine, notwithstanding the coating of India-rubber, japan, or any other varnish.

The truss which he describes is that employed by a gudewife in his neighbourhood, and its excellence is such, that it is a duty to make it generally known. He states that he has given this truss extensive trials: the result has uniformly been the radical cure of the disease. It consists simply of a skein of lamb's wool; for infants—*Berlin wool* is preferable: this encircles the pelvis; one end is passed through the other at a point corresponding with the inguinal ring: the free end is carried between the thighs, and is fastened behind to that portion which forms the cincture.

This simple and cheap contrivance can be worn during the morning and evening ablutions, and then changed for a dry one; no attention is required on the part of the nurse, except at the moment of changing. With ordinary care in drying the skin, and the occasional application of magnesia or other nursery powders, the skin is never galled.

In cases of emergency, this truss may be made available for adults; or, rather, the modification of two silk handkerchiefs tied in a ring, which, as a *pis aller*, is no more to be despised than a garter and stick as a temporary tourniquet.

ART. 48.—*On the Employment of Sugar of Lead in Strangulated Hernia.*
By Drs. NEUBOLD and HASSERBRONC.

(*L'Union Médicale*, Nov. 30, 1848, and *Monthly Journal*, Feb. 1849.)

The use of sugar-of-lead enemata for reduction of strangulated hernia was first recommended by Neuber and Seidl; it has recently been tried by Drs. Neubold and Hassserbronic. Dr. Neubold affirms that operations would become very rare, were this agent more extensively used: He states that, in his experience of its effects, he has always met with success, and that he has given four to six enemata, each containing ten grains of the acetate of lead, without bad results. In a case of a very large scrotal hernia, which had resisted the taxis and all other means for twenty-eight hours, and the patient refusing to consent to an operation, ten grains of the acetate of lead dissolved in six ounces of tepid water were given as an enema, and this was to be repeated every two hours. The pulse, which was small and contracted, gradually became more developed, the general condition hourly improved, and the hernia spontaneously returned while the man was asleep. In another case of inguinal hernia, Dr. Neubold was not called till strangulation had lasted three days, and had given rise to the worst symptoms. The patient's condition improved much after the use of the enema, and the hernia readily yielded to the taxis.

Dr. Hassserbronic has tried it, and with complete success; the following are the circumstances of the case: In the month of September, 1848, Dr. Hassserbronic was called to visit Michael Th—, a basket-maker, about sixty years old, to reduce a large inguinal hernia of the right side. The patient had already made several ineffectual attempts to reduce it, but he only rendered the tumour more painful. Constipation was present, hicough, and strong agitation. Dr. Hassserbronic tried the taxis, emollient enemata, cold applications to the tumour, and other usual means, without success: the strangulation had already lasted thirty-six hours. He was going to request a consultation for the purpose of advising an operation: before doing so, however, he determined to try sugar-of-lead enemata, forty grains to twenty-four ounces of warm water for four enemata: two every two hours; at the same time he ordered cold applications of

strong sugar of lead to the tumour: after the third enemata, Dr. Hasserbrone again tried the taxis, and was able to reduce the hernia. He ordered immediately an ounce and a half of castor oil: the patient had several stools during the night without suffering any bad effects: two days after he resumed his usual business. Though not altogether sharing in M. Neubold's hopes, Dr. Hasserbrone believes this remedy will play an important part in the treatment of strangulated hernia, and that it will advantageously supplant tobacco enemata, which are not free from danger.

ART. 49.—*On the Treatment of Fractures of the Thigh-bone in Infants in the Flexed Position.* By EDWARD F. LONSDALE.

(*Medical Gazette*, Aug. 4, 1848.)

When fracture of the thigh-bone occurs in infants or in very young children, it is by no means an easy matter to prevent shortening of the limb, owing to the difficulty of maintaining the correct apposition of the two portions of bone. This difficulty all surgeons of any experience in the treatment of fractures must have met with. My attention has been more particularly directed to the subject lately, from many cases having come under my care at the Orthopædic Hospital, as well as two in private practice, the children having been brought for the treatment of existing lameness, in all of which there was shortening of one limb, owing to the thigh-bone having been fractured at a former period, and to the want of proper care in preserving the correct apposition of the bone during the treatment. On examining the limb carefully, the cause of the shortening was found to be owing to the extreme curve forwards of the shaft of the femur, and not to the lower portion being drawn up behind the upper (which is generally the cause of the shortening in adults). The result, however, is the same—namely, the approximation of the knee to the hip-joint, and a consequent diminution of the length of the whole limb.

The cause of this increased arch in the bone depends on the difficulty of keeping the upper end from tilting upwards, and of bringing the lower portion into the same line with it. The bone then unites in an angle, causing the whole thigh to appear curved forwards; for, in the majority of cases, as already stated, there is no retraction of one portion behind the other. In adults, this evil is guarded against by the employment of the inclined plane; but in infants or very young children, this apparatus cannot be employed, for there is the absence of sufficient weight in the pelvis and body, as well as the difficulty, if not impossibility, of keeping the child in the horizontal position—points essential to secure its action, and to preserve the correct line of apposition of the two portions of bone.

The treatment generally followed for these cases, and the one that I have hitherto employed myself, is to keep the limb in the extended position, by using long lath splints, extending from the hip down to the foot. (I am convinced that short ones, applied to the thigh only, cannot keep the ends of the bone in apposition.) The splint in the front should be the longest, and be made to pass up before the hip-joint as high as the crest of the ilium. A thick pad is placed on the upper portion of the thigh-bone. Great pressure, however, is required to insure the effectual action of the splints, as well as the necessity of keeping the child in the horizontal position, a position that is difficult and irksome in infants, more particularly during nursing.

Meeting with these difficulties, I turned my attention to the possibility of treating these cases by the flexed position, and have been enabled to do so by the following simple means, which, in the case of a child twelve months old, recently under my care, answered most satisfactorily; the correct apposition of the ends of the bone being preserved, at the same time that the position of the child was less constrained and awkward.

I employ two narrow, long strips of sheet iron, an inch wide, and thin enough to allow of being easily bent at any angle required, though sufficiently thick to bear the weight of the limb without yielding. They are applied as follows: The child is placed on its back, and an assistant holds the limb in a position so as to flex the hip and knee-joints, the angle of flexion being similar to that

employed when the inclined plane is used for adults. The two thin iron splints are then bent at angles corresponding to the hip-, knee-, and ankle-joints, to adapt themselves to the limb, in the position in which it is being held by the assistant. An important point to attend to is, the proper length of the splint. The upper one should be long enough to pass up in front of the hip-joint, to lie flat on the lower part of the abdomen, and to extend down over the instep to the toes. The back one should extend up behind the buttock, being curved to fit its shape, as high as the posterior margin of the crest of the ilium, and long enough to extend down behind the heel to the sole of the foot. If the two splints are bent at proper angles, to correspond with the shape and position of the hip-, knee-, and ankle-joints, they will, when firmly bound to the limb, keep it in the position required, which is one that most favours the correct apposition of the ends of the bone, by relaxing all the muscles. The limb must of course be evenly rolled before applying the splints, and the splints themselves be padded. The upper ends of the splints are to be firmly fixed to the pelvis, by passing the bandage many times round them, and occasionally reversing the direction of the bandage round the ends of the splints themselves, to prevent them being displaced laterally.

ART. 50.—*Notes from a Clinical Lecture on Morbus Coxarius.*

By PROFESSOR SYME.

(*Medical Times*, December 30, 1848.)

Morbus coxarius is most common between the ages of seven and fourteen, and is generally owing to injury, such as a bruise from a fall on the side; more rarely, to a twisting of the body. Sometimes, also, it comes on without any ascertainable cause.

The symptoms of morbus coxarius are—weakness of the limb, pain from resting upon it—the pain extending from the hip down to the knee; is always greatest at the middle of the night, and worse some nights than others, being usually greatest before a change of weather. The pain in the knee is towards its middle and inside, and not at the outside, as in sciatica. The form of the hip is altered, being flatter than natural, and there is no fold between the hip and thigh. The limb is longer (in some cases, but more rarely shorter) than the other. This, however, is only apparent, and is due to the obliquity of the pelvis, produced by the effort to take the stress off the leg, and thereby ease the pain. It has been estimated that, for every one case in which the limb is shortened, there are six in which it is apparently lengthened.

The progress of the disease.—Sometimes the joint may recover, and no trace of the disease be left behind; at other times the textures of the joint are more or less altered by absorption of the articular apparatus. This, however, is the rarest of all terminations. Much more frequently the disease goes on to supuration, and an abscess forms, which opens on the outside of the hip. Different results may now follow. The sinus may contract, and heal up with little change in the form or mobility of the joint; or there may be a slight shortening. Oftener, however, if a cure is effected, it is by ankylosis. The limb is shortened, and the toes everted, or sometimes inverted. If the head of the bone is much shortened by absorption, there is nothing to prevent the muscles inserted into the trochanter from rotating the thigh outwards, as in fracture of the neck of the femur. If the head of the bone is not diminished, but the capsular ligament absorbed, the head of the bone will come out of the acetabulum, and be ankylosed to the dorsum of the ilium, and then the toes will be turned in, as in dislocation, on the dorsum ilii; their direction depending on the position of the thigh-bone when it escapes from the acetabulum. But the worst termination of all is, when the discharge, once begun, does not cease, but goes on so as to cause death.

Thus far all are agreed. But as to what follows, there are many differences of opinion.

1. *As to its origin.*—In what texture does it originate? In the synovial membrane, cartilage, or osseous texture? The most common opinion is that it commences in the cartilages; but with this I can never coincide, as it does not ex-

plain the phenomena. Disease may commence in cartilage in the case of the elbow and other hinge-joints, as the knee and ankle; but this is a rare occurrence in ball and socket joints. When disease commences in cartilage, there is great pain in moving the joint at the very commencement. But in morbus coxarius, though there are midnight pains, motion does not cause pain. Sometimes in morbus coxarius there is obvious ulceration of the cartilages, but then the symptoms are very different. It is almost impossible that there can be any alteration in structure for a long time, the disease remaining chronic for an indefinite period.

2. *As to its treatment.*—Not long ago, as sure as the disease was recognized, so sure was the employment of counter-irritation by the cautery, caustic, or seton; but milder treatment is now adopted. Rest is to be enjoined in all cases of diseased joints; but far more benefit is to be derived, in morbid coxarius, than might be expected, by carrying this injunction further than in the case of other joints. The long splint should be applied as in fracture of the neck of the femur. This secures immunity from motion to the hip-knees and ankle-joints; for it is to be remarked that, if the ankle be moved, the knee is moved, and when the knee is moved, so also is the hip. If the disease goes on to supuration and abscess, the abscess should be opened by a free external incision. Cod-liver oil is found to be beneficial, probably acting as a nutrient tonic.

If caries supervene, no human means can remove the disease. Lately, in some of the London hospitals, it has been attempted to cure the disease by removing the carious head of the femur; but this is improper, as caries of the joint never exists without the bones of the pelvis being equally involved. I regret that these operations should have been attempted, as they tend to throw discredit on the excision of other joints, such as the elbow, where the practice is eminently useful, and which has now become an established operation in surgery. If the disease admits of recovery, excision of the head of the thigh-bone is superfluous and useless. If it does not admit of recovery, cutting out the head of the thigh-bone can only hasten the fatal termination. If the patient recovers after the head of the bone has been cut out, it is a distinct evidence of the uselessness of having excised it. If caries be curable, why amputate the head of the bone? If incurable, why remove the head of the bone, and, at the same time, leave behind carious portions in the acetabulum, which cannot be removed?

Common sense and their unsuccessful results will, no doubt, ultimately show the impropriety of such operations.

ART. 51.—*Treatment of Hemorrhoidal Tumours.*

(*London Journal of Medicine*, Jan. 1849.)

A new method of treating hemorrhoidal tumours has lately been adopted by some surgeons of most extensive practice. The mode of treatment to which we refer was first described as applicable to one particular form of the disease by Dr. Houston, in the twenty-third and twenty-sixth volumes of the "*Dublin Medical Journal*," March, 1843, pp. 94-119, and September, 1844, pp. 32-49. He there expressed a hope that the proposed plan might be found applicable to other forms of hemorrhoidal tumour; and this anticipation now appears likely to be fully realized. A pamphlet (being a reprint of a paper in the "*Medical Gazette*") upon the subject, by Mr. Henry Lee, assistant-surgeon to King's College Hospital, containing the details of several cases successfully treated, is now before us. The advantages of the different methods are considered by Mr. Lee.

"The removal of hemorrhoidal tumours, either by ligature or by excision," observes the author, "affords, when it can be had recourse to without danger, an easy and effectual remedy for the disease. But there are cases in which the common mode of operating is not unattended with danger; and it will not unfrequently happen that a patient wishes 'something to be done,' although he is unwilling to submit to the pain and inconvenience attending the ordinary operation. It will also occasionally happen, from some peculiarity of the constitution, either natural or acquired, that healthy, adhesive inflammation will not take place after a wound, however trifling, of the rectum. In such cases,

the inflammatory action, not being circumscribed by the healthy effusion of lymph, is not confined to its intended work of reparation; and, instead of repairing the injury that has been done, becomes itself a new and formidable disease. This termination to the operation for the removal of piles is, unfortunately, too well known to require farther notice; but another result occasionally presents itself, which has not received the same attention from the profession, nor been so satisfactorily accounted for."

Cases are then given by Mr. Lee, in which pus was distinctly traced in the course of the hemorrhoidal veins, and in which secondary abscesses proved fatal. From these cases, Mr. Lee concludes that it is not always safe to place a ligature upon the enlarged veins of the rectum; and that, in the way the operation is usually performed (by passing a needle, armed with a ligature, through the base of the hemorrhoidal tumour), it must occasionally happen that one of the larger veins of the rectum is transfixed, and its sides held apart by the ligatures tied on the opposite sides of the tumour.

To avoid any of the inconveniences mentioned, the new method of performing the operation is proposed. *It consists in destroying certain portions of the mucous membrane of the rectum "with the strongest nitric acid that can be procured."* The great advantage of this plan of treatment is supposed to consist in the circumstance that the acid, when applied to the mucous membrane, coagulates the blood in the veins of the part, and thereby effectually seals the vessels against the entrance of any foreign matter. Another advantage attending the use of the nitric acid is, that suppuration is not excited so soon, or to the same extent, as when a ligature is used; the portion of mucous membrane destroyed remains in contact with, and shields, the subjacent parts, till the adhesive inflammation has taken place.

The following conditions are to be observed with regard to the operation:—

"1. When a considerable portion of mucous membrane is exposed, certain parts of it are to be selected, to which the application of the acid is to be confined. The effect of the acid may be regulated either by applying very small quantities at a time, or by shielding the surrounding surface with a paste made of chalk and water.

"2. Every portion of mucous membrane to which the acid extends, should be as completely deprived of vitality as possible, since the pain will necessarily be in proportion to the remaining sensibility in the parts.

"3. The degree of pain experienced in this operation depends, in a great measure, upon the part to which the nitric acid is applied. The sensibility of the thin skin around the anus is very great; and, if the acid is allowed to come in contact with it, the degree of tingling pain produced is very considerable: if care be taken, on the other hand, to confine the application of the acid to the comparatively insensible mucous membrane, a slight uneasy sensation in the lower part of the abdomen is generally all that is complained of.

"4. It is important to remark, that the benefit to be derived from such an operation must not be expected till the small ulcers made by the caustic begin to heal: the loose folds of mucous membrane are then drawn upon, and the whole of the mucous lining is rendered more tense. Each small cicatrix, moreover, serves as a permanent point of attachment for the relaxed membrane: and consequently the inner coat (which alone descends in such cases) is retained permanently in contact with the other coats of the bowel."

ART. 52.—*A New Mode of performing Lithotomy by the Rectum.*

By M. MAISONNEUVE.

(*L'Union Médicale*, No. 63, and *Brit. and For. Medico-Chirurg. Review*, No. IV.)

An interesting case has been recently published, in which the operation performed by Sanson and Vacca was advantageously modified. After placing the patient (æet. 28) in the ordinary lithotomy position, and giving the catheter (with a very large groove) in charge of an assistant, M. Maisonneuve, standing between the thighs, lodged the nail of his left index-finger, passed into the rectum, in the groove of the catheter, just anterior to the prostate. Along this finger he next slid a pointed bistoury, guarded by lint, to within a centimetre of

its end, and made a small incision through the rectum and membranous portion of the urethra. Still retaining his nail in the groove, he next passed in a double lithotome, with its concavity upwards, and having assured himself of its secure implantation in the groove, withdrew his index-finger, took hold of and slightly raised the catheter with his left hand, while with his right he opened the bladder with the lithotome. The catheter was now withdrawn, and the right hand so turned as to bring the concavity of the lithotome backwards. Next he introduced the index and middle fingers of the left hand above the lithotome, and separated the one from the other, so as to dilate the rectum and protect the sphincter, while he withdrew the lithotome, the blades of which, separated fourteen lines from each other, made a bilateral incision in the prostate and rectum. The forceps were then passed along the forefinger, and the stone removed.

The patient recovered so rapidly, as to be sitting in the yard on the fourth day, and he was exhibited at the academy, after a long walk, on the ninth. A urinary fistula still remained, when he returned to the country on the seventeenth day, but this subsequently healed. This operation differs from that of Sanson and Vacca by leaving the lower end of the rectum, the sphincter, and the perineum untouched; and this prevention of the exposure of the wound to external influences, places it very much in the same category with the subcutaneous incisions.

ART. 53.—*Description and Engravings of a new and readily-procured Implement for plugging the Nostril.*
By C. EDWARDS, M. D., M.R.C.S.E., Cheltenham.

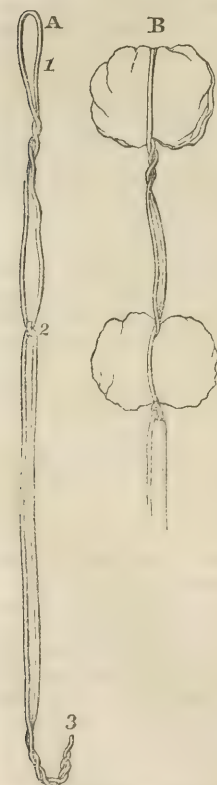
(*Lancet*, Feb. 3, 1849.)

Mr. Edwards has forwarded to the "*Lancet*" the description and drawing of a new implement and method of plugging the nostril, devoid of all complication; the same instrument acting as probe, ligature, and blunt hook, and by which an operation, often tedious, or at least troublesome, may be completed in a few seconds.

The origin of the instrument was as follows: In passing through the country, he was hastily called to visit an elderly female, almost pulseless from violent and protracted epistaxis, and on former occasions having adopted the late Mr. Liston's method, he accordingly asked for a piece of wire, to convey a thread ligature from the mouth. The only wire to be had was a piece of wire riband, which a woman tore from her cap. This he at first rejected, but afterwards used, and by it then, and several times since, has been enabled to perform the following elegant and simple operation.

1. *To construct the instrument*: Take a piece of wire riband, and cut out a single wire about thirty inches in length; double it, and form a space, by two or three twists, at a sufficient distance from the middle of the duplicature, when expanded, to inclose a proper plug of lint or sponge. From the extremity of this space, at the distance of the anterior and posterior nares, say about three inches, make the first noose of a knot, and then place the ends parallel their remaining length, except at their extremities, which are to be twisted together, and then bent into a hook.

2. *To operate*: Pass the extremity which is to contain the plug along the floor of the nostrils; it will be found to project into the pharynx. At this point of



A. Instrument ready for operation—should be about 15 inches long.

B. The same after operation, inclosing the posterior plug by torsion, the anterior plug by knot, the ends cut off at anterior nares.

1. Duplicature for posterior plug.

2. Noose for anterior plug.

3. Hook to draw the duplicature from pharynx.

the operation, by every old method, including Liston's, I have often had trouble in finding the extremity of the wire or threaded probe among the clots, which difficulty has suggested the watch-spring instruments of the shops, which is not always at hand, nor, henceforth, need be. Now fasten the hook formed at the extremity of the wire, and which projects anteriorly out of the nose through the mouth, into the projecting loop in the pharynx; and, having drawn it out of the mouth, include as much lint as will suffice for a plug, securing it simply by twisting. Now retract it above the *velum pendulum palati* into the posterior nares, till the progress of the plug is arrested; next separate the ends hanging from the anterior nares, place a second plug between them, pressing it up to the noose previously mentioned, and securing this by a common knot, we finish the operation.

The advantages of this instrument are thus obvious—viz. the facility of obtaining its material in the poorest cottage upon an emergency; its projecting into the pharynx quite as well as the watch-spring instrument of the shops, thus rendering the operation almost momentary; its being strong enough to pass as a probe, and sufficiently delicate to tie as a ligature. Further, the way whereby the posterior plug is secured by twisting, enables the operator to increase the size of the plug instantly, should it be found too small, and accidentally be drawn through the anterior nares, which accident, were the plug secured by a knotted thread, would complicate the old, troublesome, and sometimes tedious operation.

ART. 54.—*Simple Dislocation of the Astragalus: its Reduction by Division of the Tendo-Achillis.* By J. G. CROSSE, F.R.C.S.

(Communicated to the Norwich Pathological Society, Oct. 12, 1848.)

Mr. Crosse gave the history of this case, which had been admitted under him in the Norfolk and Norwich Hospital. The patient had been thrown out of a dog-cart, but could give no description of the way in which he fell. Upon his admission, the limb presented all the symptoms of dislocation of the astragalus, the sole of the foot being turned inwards, and the foot resting upon its outer edge, while that end of the astragalus which articulates with the *os naviculare*, was dislocated upwards and outwards, lying just under the skin. Neither tibia nor fibula was fractured. In reducing it, extension was made from the knee direct, and the heel grasped by assistants, who applied their force in this direction with one hand, the other being placed upon the dorsum of the foot, he at the same time endeavouring to favour the return of the bone by immediate pressure on the dislocated end. To these means it yielded but slightly, and finding the *tendo-Achillis* very tense, he divided it with a tenotomy knife, and upon resuming the extension, the bone was returned somewhat suddenly into its place after a few minutes, and the shape of the limb quite restored.

Prov. Med. and Surg. Journal, Dec. 13, 1848.

ART. 55.—*Extensive Ulceration of the Perineum, of Syphilitic Origin, cured by large doses of Conium, after the unsuccessful employment of various other remedies.* By E. A. LLOYD, Surgeon to St. Bartholomew's Hospital.

(*Medical Times*, Jan. 6, 1849.)

John Frost, æt. 22, a bricklayer, of temperate habits, middle height, rather robust, light hair, and florid complexion, was admitted into the hospital Dec. 9, 1847. He had a large sore on the left side of the perineum, not deeper than the cellular tissue immediately beneath the skin, but extending from the scrotum to the side of the anus, and encroaching on the inner part of the left thigh, being bounded in front, and on the inside, by recent cicatrices of the groin and side of the scrotum. The surface of the sore was dull and livid; the discharge thin and watery, without the appearance of pus. Its edges were irregular, hard, and overhanging the surface. This ulcer had been situated in the perineum for five months.

History.—In the summer of 1846, he had a sore on the body of the penis, which healed in three months without medicine. Shortly after this, another

sore appeared on the prepuce, which remained open eight months, and was accompanied with a bubo in the left groin. With this sore and bubo he entered the Lock Hospital on May 6, 1847. He there took Plummer's pill; his mouth was made tender; the sore and bubo healed. Before he left the hospital, a copper-coloured eruption spread over his body; this was cured on his mouth being again affected with mercury, but was soon followed by a swelling on the left side of the scrotum, which terminated in an ulcer. This healed anteriorly towards the groin, while it spread backwards into the perineum, and continued to increase. He left the Lock Hospital on December 9, and entered St. Bartholomew's on the same day. The sore then presented the characters described above. His mouth was tender from the use of mercury.

On his admission, he was ordered a mild aperient every other night, a linseed poultice to the sore, meat diet, and perfect rest in bed.

Dec. 27. Applied the nitrate of silver to the sore, introducing it freely under the overhanging edges.

Jan. 3, 1848. The nitrate of silver has produced no material effect on the sore. He is ordered to take the following draught three times a day:—Potas. iodidi gr. v; tinct. iodinii comp. M. x; aquæ destill. ℥viij M.; and to apply zinc ointment to the sore.

(The above medicine is ordered to be taken in a large quantity of water, in order to make it less likely to disagree with the stomach.)

From Jan. 31 to Feb. 5. Calomel was daily sprinkled on the sore. The draught continued.

Feb. 10. The potassa fusa was freely applied. To continue the draught.

Feb. 24. As it continued to spread, though slowly, and the various caustics had not altered its condition, the previous medicine was discontinued, and he was ordered pil. hydrarg. gr. v three times a day. Ung. hydrarg. nitricooxydi to be applied instead of the zinc ointment.

April 13. The pills have been persevered in up to the present time without benefit. Mouth not affected. Leave off the pil. hydr. and take hydr. iodidi gr. j, in the form of a pill, four times a day. Continue the ointment.

May 22. Since the last date the following applications have been tried, without changing the aspect of the sore. First, the strong nitric acid, which did not seem to have the power of penetrating its callous and diseased structure, neither did it give rise to the pain that usually follows such an application; secondly, cinnabar fumigations,

These medicines were left off, and he was ordered to take again the iodide of potash, and apply a lotion composed of two grains of sulphate of copper to an ounce of distilled water.

May 29. The sore is now somewhat larger than it was when the patient came into the hospital. It also occupies a position posterior to its former one, being situated more on the buttock and posterior parts of the thigh, and extending beyond the anus. Its form is semi-lunar. There is a remarkable difference between its two sides or margins, the one healing, the other spreading. The former (that nearest the scrotum) presents a smooth and almost rounded edge, level with the ulcerated surface, while the latter is hard, rough, and irregular, raised above the surrounding skin, and overhanging the ulcer. It is not accompanied with inflammation, nor is it painful. The discharge from it is still thin and watery. There are no granulations on its surface. It has not secreted any pus. It has spread by ulceration, and not by sloughing. It has not increased in depth.

There is now also a fresh sore on the right buttock, about the size of a five-shilling piece, and exactly similar to the one on the left side. In case it should be thought that this may have arisen from contact with that on the left side, I must state that they are too far apart to be made to touch each other.

A gentleman who was going round the hospital remarked, that he had seen a case exactly similar to this cured by large doses of conium, this medicine being gradually increased until the patient took 120 grains daily. Mr. Lloyd determined to employ this medicine, and ordered extract. conii gr. v three times a day.

This was commenced on May 30, and continued without intermission, the

dose being increased every four or seven days, until September 18th, when the sores were healed. During this period (112 days) the patient took fifty-seven ounces and two drachms of conium; the first and smallest dose being fifteen grains of the extract daily, while the largest was seven drachms daily, and was continued for seven days. (See the Table, which shows the quantity taken each day.) When the sore had healed, the medicine was reduced to six drachms daily; in the space of a week it was diminished to one drachm daily, and so gradually discontinued.

A TABLE, showing the quantity of Conium taken each day.

Dose taken daily.	Number of Days it was continued.	Total.
15 grains.	3	45 grains.
30 "	4	120 "
45 "	3	135 "
60 "	4	240 "
75 "	3	225 "
90 "	4	360 "
105 "	3	315 "
120 "	7	840 "
150 "	9	1,350 "
180 "	2	360 "
210 "	3	630 "
240 "	4	960 "
240 "	3	720 "
270 "	7	1,890 "
300 "	4	1,200 "
300 "	3	900 "
330 "	7	2,310 "
360 "	7	2,520 "
360 "	4	1,440 "
360 "	7	2,520 "
390 "	7	2,730 "
390 "	3	1,170 "
390 "	4	1,560 "
420 "	7	2,940 "
Total	112	27,480=57 oz. and 2 dr.

The effects of this medicine were sensations of fullness in the head, accompanied by giddiness, also heaviness of the eyes, on account of which he often found it difficult to read. He said it used to make him feel as if he had been smoking an unusually large quantity of tobacco. These sensations were most apparent when the dose was increased, and they invariably diminished as he got accustomed to the quantity taken, which was the case in four or five days or more. He never experienced any decided inconvenience from the medicine: it did not make his head ache, interfere with his appetite, disorder his intellect, nor did it make him sleepy; but, while he was taking it, he gained health and strength, and improved in general appearance. Slight relaxation of the bowels occasionally took place; this was always cured by chalk medicine, without opium, the hemlock being given at the same time. Simple ointment was the only dressing applied.

Sept. 26. He left the hospital.

Oct. 2. He remains quite well, and has returned to his work.

Remarks.—An ulcerating bubo of this description is not uncommon in a London hospital. Its peculiarities are, that it is a sore following the venereal disease, exceedingly difficult to heal by the use of mercury or any of the usual

remedies. It generally occurs in scrofulous persons, or those whose health has been impaired by syphilis, or possibly by the use of mercury, or the confinement of an hospital. Its seat is the cellular tissue immediately beneath the skin, and it does not extend deeper than this structure. It generally spreads on one side, while it heals on the opposite: hence it is called by some surgeons "creeping bubo." Sores of this kind are described by Sir E. Home as "obstinate irritable ulcers." They very much resemble some forms of cancer; this was very remarkable in the case related. Its general appearance described on May 29, is that which is usually presented by these sores. The most interesting peculiarity of this case was the success of the remedy—a remedy not often employed to a similar extent. Some useful information on the effects of conium is given by Dr. Earle, in the "*American Journal*," July 1845. They are the result of a series of experiments made on himself, and confirm what we see recorded in other cases, namely, that the dose of this medicine may be gradually increased, to what may seem an almost unlimited extent, without danger; that if the dose is not increased, in a few days the patient becomes accustomed to it, and it ceases to produce its usual effect on the constitution. This was very remarkable in the present case. The medicine produced its usual effects every time the quantity was increased; these would last only a few days, when it had to be again increased, because it was found, by repeated observation, that the healing of the sore invariably stopped when the patient was accustomed to the dose he was taking; this also proved that it was the hemlock, and not accidental concurrent circumstances, that cured the ulcer.

ART. 56.—*New method of treating Urethral Pains following Gonorrhœa.*
By M. VIDAL (de Cassis).

(*L'Union Médicale*, Oct. 7, 1848, and *Monthly Journal*, Feb. 1849.)

After stating the frequent occurrence of severe persistent pain in the course of the urethra, after all traces of discharge have completely ceased, M. Vidal mentions that, having frequently remarked that the pains were relieved by pressing the penis with the fingers, he was led to the idea of treating these cases by compression, and has found the plan useful, affording a perfect cure in many cases, and a marked alleviation in others. The operative procedure, says M. Vidal, is so simple, that it is scarcely necessary to mention it. "The surgeon takes a long strip of diachylon plaster, one centimetre (two-fifths of an inch) in breadth, and rolls it around the penis in the same manner as a common bandage, beginning at the glands; or, still better, he may apply it more accurately by using a number of small strips of plaster, each of which shall only be sufficient to encircle the organ once, and the two extremities of which strip should be made to cross upon the urethra, for the purpose of insuring the firmness of the dressing. The principal point to be attended to is the degree of compression, which ought to be as firm as possible, without interfering with micturition, which would, of course, necessitate the removal of the dressings. The compression should be continued for a considerable period after the cessation of the pains, to prevent their return." M. Vidal cites two cases, from amongst a great number which he has treated, in favour of this mode of practice.

ART. 57.—*On the Efficacy of the Sulphate of Bebeerine in Strumous Ophthalmia.*
By HENRY LLEWELLYN WILLIAMS, M. D.

(*Prov. Med. and Surg. Journal*, Oct. 18, 1848.)

Scrofulous affections are most certainly on the increase; nor is this so much to be wondered at, when we take into consideration the existence of many things likely to favour and promote such complaints,—such as an enlarged population, without a proportionate increased means of support, and the close unhealthy houses in which the children of the poor are huddled together in a state of abject filth. It is not, however, the object of this paper to enter upon a discussion of the cause of affections of this nature being more frequent than they formerly were; suffice it to say, such is the case.

Of scrofulous affections, none are more frequent and troublesome to contend with than strumous ophthalmia, occurring generally between the periods of infancy and puberty. In our large towns it is so common an affection, that, of ten cases of inflammation of the eye, eight will be of this kind. It is known by several different names: thus it has been termed pustular, from the appearance of a number of minute pustules upon the surface of the organ; it has also by Dr. Mackenzie been called phlyctenular ophthalmia, as he believed it to affect the conjunctiva not so much as a mucous membrane as a continuation of the skin. It is a disease, as its name implies, intimately connected with the scrofulous constitution, the external marks of which every medical man is acquainted with. The fair complexion, the thin integument, the distinctness with which the ramifications of the cutaneous veins are seen, the short and thickened upper lip, the red or sandy hair, are some of the most prominent features of this state of constitution.

Scrofulous ophthalmia is most prevalent from the time of weaning to about the age of eight. There is usually only *slight* redness of the conjunctiva, sometimes confined to that lining the lids, occasionally extending to the covering of the globe. There is always great intolerance of light; little prominences or pustules form on the surface of the conjunctiva generally; a few vessels collected into little bundles are seen proceeding from the same point of the circumference—more frequently from the angles of the eye than from any other point—towards the cornea, and at their termination the small elevations which have obtained the name of pustules are discernible. They are more frequent at the junction between the sclerotic and the cornea, or near that line. These pustules may become absorbed, and leave behind a temporary white speck; often they break, and form ulcers. When these ulcers are situated beyond the cornea, they are of little consequence, but when on the cornea, they call for more attention, as danger may result in two ways,—either by penetration of the cornea, permitting the escape of the aqueous humour and prolapsus iridis: or, after cicatrization has taken place, a permanent white spot may remain, which will interfere more or less with the patient's vision, according to its size. I may be permitted to take this opportunity of cautioning practitioners against the indiscriminate use of acetate of lead, as a collyrium in this affection, for I have seen more cases than one where the ulcer has become the seat of a white deposit of sulphate of lead, from the employment of this wash, and which, of course, results in permanent opacity. The great intolerance of light is a very prominent symptom of this disease, and sometimes it is really the only symptom that manifests itself; the child will skulk all day in dark corners, so great is its dread of the approach of light. If brought to the window, he holds down his head, and presses his hands or arms before his eyes. Children affected with this disease carry it legibly written in their physiognomy. The child's brow is knit and contracted, and those muscles of the face are instinctively called into action which tend to exclude the light without quite shutting out the perception of objects. The attempt to open the eye is accompanied by profuse lachrymation. The tears pass partly over the skin, which they sometimes inflame and excoriate: frequently pustules arise, and produce a discharge, which, forming a crust on the cheek, often extends to the forehead and temples. This *crusta lactea* is very characteristic of the scrofulous habit.

The treatment hitherto found of the greatest benefit, after the free evacuation of the alimentary canal, has been counter-irritation, combined with tonics. Leeches in a very acute attack may be sometimes necessary: but generally, by reducing the system, when it will not bear reduction, they have tended rather to retard than promote recovery.

Dr. Mackenzie has strongly recommended the use of quinine as the best tonic, in which opinion he is supported by Mr. Lawrence, who says he has frequently seen it act "quite like a charm:" in these cases, no one will therefore question the utility of tonics. It is my purpose in this communication to draw the attention of the profession to the superiority of the sulphate of becheerine*

* For an account of the medicinal properties of becheerine, see Dr. Douglas MacLagan's papers on the subject in the "Edinburgh Medical and Surgical Journal," April 1845; also "Monthly Journal of Medical Science," August 1843.

to the sulphate of quinine, not only on account of the moderate price of this drug as compared with quinine, which is in itself a strong recommendation, especially in dispensary practice, but also because, according to the testimony of Dr. Douglas MacLagan and others, it is better adapted to some constitutions and affections than quinine, not being so liable to excite the circulation or affect the nervous system. The following case, one out of many that I have had under my care, will illustrate its beneficial effects:

Strumous ophthalmia treated by the sulphate of bebeerine; cure.—J. L., 8 years of age, was seen on the 17th of July; the child presented all the characteristic features of the strumous diathesis. He was much emaciated. His mother informed me he had a similar attack two years previously, since which time there has been some intolerance of light. The conjunctiva lining the lids was very vascular; the margin of the cornea of the right eye presented a number of minute phlyctenulae. He was ordered a purge with calomel and rhubarb, a blister behind the ear, and warm water to the eye.

20th. The appearance of the eye much the same; the other becoming affected. To repeat the purge, and take two grains of sulphate of bebeerine night and morning. Strict attention to his diet insisted on.

23d. Blister behind the left ear, as the corresponding eye presented two or three well-marked ulcers on the cornea. To continue the bebeerine.

27th. A lotion was ordered with two grains of sulphate of alum to the ounce, which was alternated with the sulphate of zinc. He continued to take the bebeerine upwards of three weeks; after that time, he was discharged cured, the ulcers being healed, and the intolerance of light quite abated.

ART. 58.—*Excerpta from a Clinical Lecture on Gonorrhoeal Ophthalmia.*

By H. HAYNES WALTON, F.R.C.S.

(*Medical Times*, Nov. 4, 1848.)

Nature and progress of the disease.—The term “gonorrhoeal ophthalmia” is, I suppose, familiar to you; but do not consider that it is a common complaint—far otherwise. And this is the more surprising, when we reflect that there are few men in the patient’s rank of society—I shall say nothing of the higher classes—who have not had clap at some period of their lives, and many are repeatedly clapped. It is equally a mystery why both eyes are seldom attacked: for putting aside the probability of both being inoculated at once from the same source, from the proximity of these organs, and the consequent facility with which infection may be conveyed from the affected to the sound eye, particularly in the commencement, when the sufferer is ignorant of the communicability of his disorder, and is careless, one would regard it as an occurrence of the greatest likelihood.

Gonorrhoeal ophthalmia is greatly dreaded from its rapid destructiveness: cases have been seen where, in twenty-four hours, all chance of recovery has been lost. A few months ago, a patient applied here with his eyes destroyed on the third day after the infection. I must tell you, that its ravages do not depend on the whole globe being involved in inflammation and disorganization ensuing, although this may happen, but on effects which it produces in the cornea—such as ulceration, sloughing, deposit of pus between its layers: the termination of these being penetration of the cornea, with more or less of loss of the humours of the eye, and prolapse of the iris, or opacity of the cornea, the remains of reparation, after some of superficialities have been lost, just as you saw in the left eye. There is yet another effect exemplified in this patient—atrophy of the cornea: this happens as well in other inflammatory affections, and occasionally the entire globe gets shrunken.

Origin.—About the origin of this disease much has been written, and diversity of opinions yet prevails. I need hardly tell you that it is a well-ascertained fact, that purulent discharge from the urethra, or clap matter, will, when applied to the conjunctiva, produce the disease we are considering. Some of you may remember that a patient came to the hospital a few months ago with gonorrhoeal ophthalmia, the result of bathing his eye (which was affected with chronic ophthalmia) with his urine, while a clap was on him. The same holds

good whether the inoculation is from the same individual, or from another, although Vetch thought differently. To metastasis has it been attributed, and, what is stranger still, there is "gonorrhœal ophthalmia without metastasis or inoculation" spoken of. By this is meant that the gonorrhœa and the ophthalmia are one and the same disease, and that, without any metastasis or inoculation, one passes into the other. I have no faith in the metastasis; and as to the last supposed mode, or origin of the disease, I receive it as great twaddle. I do not see why, because, in the majority of instances, we cannot trace the application of gonorrhœal matter to the eye, we should overlook or discard the greater probability of inoculation.

Diagnosis.—No doubt the question has occurred to you—How are we to distinguish gonorrhœal ophthalmia from other puriform discharges of the eye, and in what respect do they differ? I believe that they are one and the same sort of disease, notwithstanding their different modes of origin, differing only in degree or intensity. You know that scarcely a day passes without patients presenting themselves here with catarrhal ophthalmia, and that, for the most part, it is an affection yielding quickly to topical remedies. It is the mild form of the purulent ophthalmia which you see in infants and adults; in the latter also called Egyptian, or contagious ophthalmia. Now, the gonorrhœal variety, although closely allied to the latter, is even a more aggravated malady, its termination being more disastrous; but the diagnosis must rest on the history of the case, and an examination of the urethra, since there is no set of symptoms proper to either that can be depended on, and the more particularly when the patient is seen at a late period of the disease. If you have suspicions that clap exists, and it is likely that the patient's statement is questionable, request, or even demand, an examination of the penis. It is astonishing what lies men will give utterance to, in order to conceal the existence of a pox or a clap from a medical man, when a knowledge of its occurrence is of great importance. You must recollect that, although the symptoms are so much alike, a diagnosis, if it can be made, is valuable, for you are then the more prepared to check a malady which I have told you is the most dreadful of the purulent ophthalmiæ. The best observers state that purulent ophthalmia of adults commences in inflammation of the lids, which then spreads to the conjunctiva of the globe; but in the gonorrhœal form the reverse is the case, the correctness of which I have verified; and hence perhaps the greater amount of chemosis in the latter, and therefore the greater probability of sloughing, or ulceration of the cornea. Also, that the second eye seldom escapes in the Egyptian ophthalmia, and in it the lids are more swelled and inflamed. One of the peculiarities of this case is, that both eyes were affected.

Treatment.—The treatment should form a very important part of our consideration, both on account of the direful end of the affection when left to itself, and the small success that generally attends attempts to control it.

Fortunately, within the last few years, much knowledge has been obtained, whereby its termination has been rendered more favourable, or, in other words, its treatment is better understood; it is not now generally considered necessary to reduce a patient to death's door to attempt to cure his complaint, and, after all, to do more harm than good. For this, and indeed for much that is valuable in the treatment of eye diseases, we are greatly indebted to Mr. Tyrrell. It is surprising, however, with what tenacity some of the old ophthalmic surgeons adhere to the "strict antiphlogistic system" of treatment, of which bloodletting is the principal means. Their want of success seems to render them the more desperate. Mr. Morgan used to tell his pupils that, to control this disease, it was necessary to produce a degree of depression very little short of that occasioned by profuse and continued hemorrhage.

I do not condemn the judicious employment of depletion, even bloodletting. It is the abuse of it by excess, together with its adoption when it cannot do good, and will probably do harm, that I reprobate. Now I will tell you when to deplete: when the patient can bear it, i. e. when the circulation is greater than natural. But do not attempt it if there should be any contra-indication,—and I particularly allude to a depressed condition of the vital powers: neither must you reduce your patient too low when you deplete; if the circulation be

brought just under what is considered the standard of health, that will suffice. Depend on it that, for reparative action to ensue, there must be a certain amount of power, not too much, nor too little, and only practice and close observation can teach the surgeon this nice point. Local bleeding is almost always required, either in the form of cupping or leeching; I prefer the former, but this case did not even call for that.

From the local application of stimuli and astringents great good is effected, and in the early stage of the disease, if the patient be brought into the condition I have described, will suffice; but beyond that, we must seek for something else. I shall give you Mr. Tyrrell's opinion here, and I do it with satisfaction, because I had the opportunity of seeing his practice for several years, and have personally confirmed its correctness.

He says that, when the chemosis is incomplete, which can only be in the early stage, and I must remark, that the danger of the cornea suffering is in proportion to the amount of chemosis, the measures I have described will suffice to cut short the disease, but not so when complete; and, as regards depressing the patient, he has often seen it carried to an extreme degree unavailingly; and further, he is satisfied that the excessive depletion he used to adopt and witness often tended to hasten an unfavourable termination of the disease, and during several years he had watched many cases in which the chemosis was complete, and not in a single instance did the cornea escape, in spite of active general and local depletion, and the local application of the strongest stimuli or astringents. As if to be more impressive on the subject, he goes into the case of a male adult, both eyes chemosed, one with a clear cornea. He was bled twice to fainting in twelve hours, and had thirty leeches applied, added to which he was kept nauseated, and took calomel and opium every six hours, the bowels being freely acted on before the exhibition of the latter medicine; yet both corneæ sloughed.

What practice, then, are we to adopt when the chemosis is entire? Why, to cut through the chemosed conjunctiva in several places. You must have seen me adopt this line of practice in such cases. I pointed out to you before the lecture some of the marks of the cuts in this patient. It had been recommended, before Mr. Tyrrell's time, to "excise and incise" the chemosed conjunctiva, but not after his plan, and from which he and others have experienced such good results. It is not necessary to examine Mr. Tyrrell's theory about the cornea perishing by reason of its nutritious supply being cut off by strangulation; and, however much that may be questioned, the beneficial effect of his practice has been fully attested. His method is to divide the conjunctiva and the subjacent cellular membrane from the cornea, in a direction between the two attachments of the recti muscles, making two incisions in each of these positions, and carrying the incision towards the edge of the orbit, avoiding immediately the transverse and perpendicular diameter of the globe; that the larger vessels passing to the globe may not be injured. His observations on its success are, that a hazy cornea that still reflects light will probably be restored to its original integrity, or suffer but triflingly; that, even when the cornea has in part lost its vitality, the extension of mortification will be checked, and the yet healthy portion will be saved. The latter statement we have this day had a proof of. He thinks that its beneficial operation is not increased by means tending to depress the general power, nor likely to be interfered with but by the two conditions of great excess of arterial action with fever, and extreme feebleness of vascular power.

With the conjunctiva entirely chemosed, you are as well to direct your attention to the general condition of the system, and to carry out those views that I have propounded, when treating of the early condition of the affection. You must support if too low, and deplete if there be more power than I have described. The best plan, if the latter be required, is to produce a quick impression on the articulation, by the abstraction of blood from the arm. Usually, six or eight ounces will suffice, and to produce further effect, if occasion require, as well as to maintain the desired state, employ purgatives, or nauseating medicines.

Not long since, a private patient was brought to me, with gonorrhœal oph-

thalmia in one eye. There was entire chemosis, and the cornea slightly hazy. He was aged 18, with hard pulse, and feverish. I bled him to eight ounces, divided the chemosis, and ordered him an aperient draught and local stimuli. His circulation, which was at first reduced, again rose. I now purged him till it was brought to the state I desired. The result was complete. His eye was quite restored.

It is, I think, easier and safer, after the lancet has been once used, to regulate the state of the circulation by the means mentioned, than to resort to a second bloodletting, or to take a large quantity of blood at first.

The advocates for large bleedings say, that the after-condition of their patients is not the worse for it. This is not true, either as regards the general health or the affected organ. On the latter point, Mr. Tyrrell's evidence is—"Since I have abandoned the means which are calculated rapidly to exhaust the general power, I have not had to combat an obstinate chronic stage of the disease, which formerly was of frequent occurrence, and generally troublesome in proportion to the severity of the means used to check the acute disease, and its effects upon the system." (Tyrrell on the Eye, p. 94.) You must have remarked that I employed a mild local astringent. I do not confine myself to alum, but use other things: among them nitrate of silver, the latter not stronger, however, than two or three grains to the ounce. I attach the greatest importance to the *frequent* use of the lotion, and before each application the purulent secretion should be removed, as far as practicable, with a soft rag and warm water. I firmly believe that all applications to the conjunctiva that produce actual pain are productive of harm; they greatly irritate that membrane, and if persisted in produce troublesome chronic inflammation. If you take the trouble to follow out cases where burning applications are used, and particularly strong solutions of nitrate of silver, you will see the truth of what I say.

I must just make one remark about the division of the chemosis. I do not always select the spot where Mr. Tyrrell directs the incisions to be made, between the attachment of the recti; but invariably observe the direction he advises, from the cornea to the margin of the orbit. The form of knife best suited, is one like this—a small curved bistoury; and as to its use, you must introduce it just where the chemosed membrane overlaps the cornea, and carry the point through the entire thickness of the swelling to the palpebral sinus, taking care not to injure the sclerotic coat; then depress your hand, and make it cut its way out. I am of opinion that these incisions may be advantageously employed more than once in the same case, and that they are useful even when the conjunctiva is not entirely chemosed. I have carried out that practice in this instance.

SECT. IV.—RARE SURGICAL CASES.

ART. 59.—*Case of Congenital Glossocœle, or Hypertrophied Tongue, cured by Operation.* By W. G. DELANEY, M. D.

(*American Journal of Medical Sciences*, Oct. 1848.)

A female, æt. 20, was born with the tongue protruding from the mouth. It had grown with her growth, and become a constant nuisance as well as a disgusting sight. She is finely formed and intelligent. The tongue protruded four inches, and measured seven inches in circumference. A deep linear fissure occupied the dorsum of the tongue in its whole length. The protruded portion was quite dark, owing to the number of vesicles filled with blood; and the part in the cavity of the mouth was also covered with these vesicles, and enlarged papillæ, but in a lesser degree. The substance of the tongue was extremely hard, and scarcely susceptible of pain, and was constantly pouring out a profuse, viscid, and offensive exudation. The tongue could not be retained in the mouth except for a moment, as its intrusion filled the whole cavity of the fauces, and prevented respiration.

The inferior maxillary bone was natural in form, except at the symphysis, where the incisors and canine teeth were separated half an inch, and inclined outwards by the constant pressure and weight of the tongue. The lower teeth were covered with tartar, and rather loose in their sockets, and the lower lip everted on the chin.

She had never been able to masticate with her tongue in the mouth, and consequently lived mostly upon fluids. She was subject to painful periodical swellings of the tongue, every six weeks or two months, during which time she would almost reach the point of starvation, from absolute impossibility to swallow any nourishment for a number of days. During these periodical turns (which had no connection with the menstrual discharge, the latter being always regular) profuse hemorrhage would sometimes take place from the tongue, which at these times looked, as she expressed it, as black as my hat. She could make herself understood, though her words were very thick, and given with a lisping utterance. My advice was requested in this painful case, with the promise that it would be acceded to in all things.

Having decided to operate, on the 30th May last, assisted by Dr. Oliver, of Portsmouth, I operated in the following manner: The patient being seated in a chair, her head supported by one assistant, and hands secured by others, I forcibly drew the tongue outwards and downwards by a strong forceps, commenced a Λ shaped incision with a bistoury on the left side, carried it to the median line a little inside of the upper incisors, turned and cut outwards.

Thus, with two strokes, I excised the part, which was of great density and hardness. A formidable jet of blood immediately issued from the dorsal and ranine arteries, which were, of course, preternaturally enlarged.

I tried to control the hemorrhage by torsion, which failed, as the arteries were so impacted in the surrounding substance that I could not draw them out. Compression was quite as unsuccessful; dossils of lint, wetted with iced alum water, were no better, and so I proceeded to tie the dorsal and ranine arteries, which I did without trouble, and thus effectually stopped the hemorrhage.

The patient all this time suffered so little pain, that the moment the arteries were secured she jumped up and ran to the mirror, to see the effect of the operation. The ligatures were cut off close to the knot, hoping that in their course outward the suppuration might tend to lessen the great thickness of the tongue.

The flaps were now brought together (the coagula having been carefully removed with iced alum water), and secured with four interrupted sutures. When this was done, the tongue was of good shape, and no point of cut surface remained exposed. Length of tongue removed, two inches and three quarters. For nine hours after the operation the tongue remained within the mouth: inflammation and swelling then set in, and protruded it. The only dressing applied was a dossil of lint, wetted with ice water. There was no secondary hemorrhage. On the sixth day three of the sutures were removed, and on the 20th complete union had taken place by the first intention. The turn of periodical discharge had come round by this time, and the tongue became slightly swollen, and the sub-maxillary gland of the left side very much so. The application of half a dozen leeches, with saline purging, quickly subdued this attack. The patient had been put upon the tincture of iodine, and it was continued with benefit.

On the 5th inst. the patient, for the first time in her life, chewed with the tongue in the mouth. It is now kept within the teeth, like any normal tongue, and protruded with but slight difficulty. The exudation is very trifling—not sufficient to afford the slightest inconvenience, and altogether deprived of unpleasant odour. On the 10th inst. I had occasion to remove the lower incisor teeth, their horizontal projection having caused ulcers in the lower lip, which has now assumed its natural position, and completely closes the mouth. On the 25th of July she paid me a visit at the Navy Yard, and I take pleasure in saying, that a more comely-looking girl, or one better pleased with her own altered condition, can rarely be found.

ART. 60.—*Fracture of the Neck of the Femur within the Capsule—Bony Union.*
(*American Journal of Medical Science*, July, 1848.)

Dr. Condit reports a case of fracture of the neck of the femur, in a man, aged 80. The accident happened in May, and the patient died in November following. The following are the *post-mortem* appearances:—

The muscles and other structures around the cervix femoris were more pale than usual; the capsular ligament was entire, giving no appearance of laceration. The ligamentum teres was vascular; the acetabulum was normal in appearance. The neck of the femur was shortened, and the fracture was discovered to be wholly within it. The head of the bone had been broken across transversely, exactly where it joins the neck. The ridge, characteristic of the seat of fracture, had been thrown out, and the reunion was firm for more than three quarters of the circumference of the bone. The limb having been drawn up by the contraction of the muscles, a considerable angle was formed by the head and neck at their point of juncture, but they were as firmly united by osseous formation as if they never were separated. On the upper side, where the fractured edges were not in apposition, union was not yet complete, but ossification was going on upon all the broken surface, and had the patient lived a few months, would doubtless have been perfected. Could the state of the injured part have been by any means ascertained, and had not the condition of the ankle forbidden it, the patient, I think, might safely have walked; there was sufficient firmness at the fracture for the limb to have contributed its share of support to the trunk. From a fear lest some accident should befall the specimen in handling it, I left it with a mechanic to have the head protected by a covering wire. He placed it for safe keeping in a desk in his room, belonging to another man, who, removing the desk in his absence, threw out the bone, supposing it to be of no value, and though diligent search was made, it was not recovered. I had the preparation in my possession for two or three years, and during that time it was shown to many members of the profession, who expressed but one opinion, that it was a case in which a complete fracture entirely within the capsule was reunited by ossification.

ART. 61.—*Successful Reduction of a Dislocation forwards of the Inferior Surface of the Fifth Cervical Vertebra.* By M. VRIGNOUNEAU.

(*Journal de Connaiss. Medico-Chir.*; *L'Union Médicale*, tom. ii. No. 88; and *Edin. Medical Journal*, Nov. 1848.)

The patient fell from a tree, on his head, and lost consciousness, which, however, returned in half an hour; he then complained of violent pain at the vertex and back of the neck; the author diagnosed—how he does not say—a dislocation forwards of the inferior surface of the fifth cervical vertebra. He bled the man, and ordered absolute rest, but without avail; and forty hours subsequently—speech having become difficult, the face injected, the respiration stertorous, and the pulse almost imperceptible—he determined to give him the chance of an attempt at reduction. For this purpose the man was seated, two assistants pressing firmly, one on each shoulder, while M. Vrignouneau gently extended the neck. Partial extension rendered the speech stronger, and respiration freer, and emboldened the operator to proceed further. When he thought the extension sufficient, he carried the head and superior part of the neck backwards; this manipulation was followed by a snap, and from that moment the man recovered as by enchantment.

ART. 62.—*Compound Dislocation of the Right Humerus.*
By H. HAYNES WALTON, F. R. C. S.

(*Medical Times*, Nov. 18, 1848.)

My attention having been recently directed to dislocations of the shoulder, it occurred to me that it would be advantageous to make public a case of compound dislocation of that joint, that was under my care when house-surgeon at St. Bartholomew's Hospital.

The accident is very rare, and little has been said about it, and authorities in general do not allude to it. The treatment and termination of this case convey instruction that is profitable. I can well imagine a surgeon, who possesses no information on the subject, hesitating on the measures he should adopt in a similar instance.

George Mangell, aged 19, admitted on the night of Jan. 20th, 1842, into St. Bartholomew's Hospital.

Mode of accident.—While at work at a threshing-machine of three-horse power, his arm got entangled in one of the wheels during its revolution.

Symptoms.—The shoulder is flattened, the arm a little lengthened, the elbow at some distance from the side, and the limb is fixed.

Amount of injury.—A wound, ten inches in length, extends nearly around the shoulder, commencing in front, just below the inner tubercle of the humerus, passing obliquely through the axilla, and terminating behind, at the base of the acromion. Anteriorly only the skin is divided. The muscles beneath, although exposed, are uninjured, and the brachial plexus is not denuded. Posteriorly the axilla is laid open, and a portion of muscle hangs out. The skin has retracted considerably, and is, besides, so extensively detached from the subjacent muscles, that the entire finger can be passed under it, on either side of the wound, without reaching the limits of its separation. The head of the humerus, denuded of its capsule, is felt lying against the inferior costa of the scapula; its neck can also be distinguished, and, in front of it, the brachial artery can be felt pulsating. No bony structure could be seen, as the upper part of the arm could not be drawn away from the trunk sufficiently for that purpose. The partially detached piece of muscle is a bit of the latissimus dorsi; the situation from which it has been torn cannot be distinguished.

Treatment and reports.—The first steps I took were to remove the piece of muscle, by dividing the few ragged fibres which united it laterally, and then to sever the tendinous insertion from the humerus. The portion was about an inch and a half square.

I now proceeded to the reduction of the dislocation. This was done by two assistants fixing the body and the scapula by a jack-towel, while two others exerted extension by laying hold of the forearm. I then placed my left hand under the upper part of the arm as a fulcrum, and at the same time grasping the elbow with the right hand, and using it as a lever, replaced the bone in about three minutes. The edges of the wound were brought together by sutures, and the arm confined to the side of the body by a bandage. The forearm was supported by a sling.

The wound united kindly, partly by adhesion, partly by granulation. No constitutional disturbance followed the injury. Several days after the accident suppuration took place on the outer part of the chest, below the axilla. I evacuated the matter by incision.

Feb. 20.—The arm-sling and bandage are laid aside; he can raise the arm without pain. The shoulder-joint admits of more motion than he is able to perform voluntarily. The deltoid muscle is so shrunk that the outline of the humerus and the acromion is perceptible.

March 11.—The wound is completely cicatrized; the patient has little power of raising the arm. He performs the under motions freely. Discharged. (See Report on Surgery in the present Volume.)

ART. 63.—*Case of a large Tumour involving the Superior Maxillary Bone, removed by Prof. PANCOAST at the Clinic of the Jefferson Medical College. Reported by JAMES V. PATTERSON, M.D.*

(*Philadelphia Medical Examiner*, August 1848.)

Rachel Flora, æt. 18, a strong, healthy coloured girl, residing in Bucks Co., had suffered from the presence of an epulis tumour of the upper jaw for the last ten years.

When she was two or three years old, and then living in Virginia, she had a tumour of the same description removed from her upper jaw by a physician of that State; but after an interval of three or four years it returned again, and

has been gradually increasing, until it has attained its present size. The tumour, as it now appears, extends from the anterior part of the superior maxillary bones, across the mouth,* as far back as the epiglottis, being attached in front to the alveoli of the incisor teeth, and behind to the palatine processes of the superior maxillary, filling up the cavity of the mouth, and materially interfering with respiration and deglutition, so that for the last few months the patient has been nourished entirely by liquids. In its character the tumour evidently belonged to that class of tumours known under the name of erectile, vascular in its nature, swelling up and pulsating forcibly under the least excitement of the circulation, so as to threaten the patient with suffocation. Only a few days after her arrival in this city she had an attack of hysteria, during the paroxysm of which the tumour swelled up to such an extent as to endanger her life by suffocation, and to demand the free use of the lancet.

As the removal of such a vascular mass would necessarily give rise to a great amount of hemorrhage, it was deemed expedient and requisite to tie the primitive carotid artery of that side; for the ligation of the external carotid alone would not suffice; as there existed such a free anastomosis between the vessels of the external and internal carotids, secondary hemorrhage would be likely to take place, which might prove fatal. Accordingly, on the 6th of November, Professor Pancoast, in the presence of the class, performed the operation for ligation of the primitive carotid on the left side, after the usual manner, and succeeded in throwing a ligature round the artery, though the struggles of the patient, and the great fear lest she should have a hysterical convulsion during the operation, made this a rather difficult undertaking. Everything went on favourably, and in the course of two weeks she was prepared to have the whole tumour removed.

On the 20th of November, the patient having been brought into the amphitheatre, Prof. Pancoast removed the whole of the diseased mass after the following manner:—

The face being placed opposite a strong light, and the head of the patient supported against the breast of an assistant, an incision was made through the cheek, from the left angle of the mouth, in a semi-circular direction, towards the outer canthus of the eye, after the manner of Velpeau's operation, so as to avoid wounding the parotid duct and the portio dura nerve.

The flap was then rapidly dissected back from the bone, and with a small saw the superior maxillary was divided transversely by an incision parallel to the alveolar processes; then with a strong pair of cutting forceps a vertical incision was made through the bone at each end of the transverse, one by the side of the last incisor tooth on the right side, and the other by the last molar tooth of the left, and the mass, thus isolated from its bony attachments, was quickly removed. The hemorrhage following was restrained by the use of the actual cautery; and the wound having been plugged with lint, the lips of the incision were united by hare-lip suture and adhesive strips, and the patient placed in bed, and ordered to live on a liquid diet.

The wound in the cheek healed up by first intention in five days, and, on the tenth day after the operation, the condition of her mouth was such that she was enabled to eat meat, a thing which she had not done before for several months. The wound of the jaw rapidly filled up with healthy granulations, and in three weeks after the operation she was discharged, cured. The ligature of the carotid came away on the 30th of December, and in the first week of January she returned to her friends in Bucks county, highly pleased with the results of the operation.

ART. 64.—*Ligature of the Left Subclavian Artery for Subclavian Aneurism; with a remarkable Deviation of the Vessel and consequent Change of its Relations.*
By J. MASON WARREN, M. D.

(*American Journal of Med. Sciences.*)

The great mortality attending the ligature of the larger arterial trunks, and of the subclavian in particular, gives interest and importance to any case of operation on those vessels. In the latter this interest is increased by its deep situ-

ation, causing in many cases a great difficulty of reaching it, and by the importance of the organs in its immediate neighbourhood. According to the valuable tables furnished by Dr. Norris, out of 69 cases of ligature of the subclavian artery, 36 recovered, and 33 died, or nearly one-half. In operations on the iliac arteries, out of 118 cases, 85 recovered, and 33 died. From 38 cases of operation on the carotid artery for aneurism, 22 recovered, and 16 died. In every instance where it has been necessary to place a ligature on the subclavian artery on the tracheal side of the scaleni muscles, the result has been fatal.

The case which I propose at present to relate, offers some peculiar points of interest, apart from the general one of the ligature of the vessel. Among the principal of these may be mentioned the fact of a ligature having been applied to the artery for an aneurismal tumour situated above the clavicle, being, so far as I am aware, the first case of this kind that has had a successful result, because the recorded aneurismal tumours in that situation have required the application of a ligature within the scaleni, and the termination, as stated above, has been unfavourable. *Secondly*, the anatomical peculiarities in the relations of the vessel, to which may be attributed the possibility of the ligature on the outside of the scaleni. *Thirdly*, the rapidity with which the collateral circulation was restored, the pulse having been felt at the wrist twenty-four hours after the operation. *Finally*, the length of time the ligature remained attached, *ninety-six days*, notwithstanding all safe means were made use of to detach it.

Without further prelude, I shall proceed to the description of the case.

Miss A., æt. 30, of delicate constitution, had a congenital club-foot of the worst kind, and, in consequence, a double curvature of the spine. For the former of these she was treated eight or ten years since by Dr. Brown, at his infirmary, and the foot, after the section of the tendons, followed by the appropriate treatment, was completely brought into its natural position, so that she was enabled to walk with ease, without the aid of any mechanical support. The curvature of the spine was submitted to a similar treatment, with the same successful result.

At the request of Dr. Brown, she consulted me in the early part of December, 1847, for an aneurismal tumour situated just above the scapular end of the clavicle, about the size of a pigeon's egg, of which she gave the following history:—

Four months previous, while in attendance on a sick brother, she had occasion to draw the cork from a bottle, and felt at the moment a sudden crack at the point where the present tumour is situated. Her attention was not attracted to it at the moment, but a short time afterwards a small swelling, having a decided pulsation, was distinguished at that spot, which has gone on increasing, until it has attained its present size. It had a powerful pulsation, and possessed the usual thrill characteristic of an aneurismal affection.

After having examined the tumour and learned its history, I endeavoured to discover the subclavian artery in its normal situation beneath the clavicle, at the point where it passes over the first rib. To my surprise, no large vessel, or any osseous protuberance answering to the tubercle of the first rib, usually taken as the guide to the artery in this position, could be found. Different parts of the neck were then explored, which finally led to the discovery of a large artery passing obliquely upwards, parallel to, and about an inch removed from the external border of the trapezius muscle. Compression being made at this point, the pulsation of the tumour ceased, as well as the pulse at the wrist. There was no question, therefore, in my mind, that this was the subclavian artery, but it was more difficult to determine the cause of this remarkable anomaly.

I now sought for the first rib, and to my surprise discovered both the first and a part of the second rib passing obliquely across the neck above the clavicle. The insertion of the scalenus anticus muscle into the first rib was at length distinguished; the tubercle, however, was not sufficiently developed to be manifest to the touch. The whole osseous system of the chest in this case seemed to have undergone a partial displacement. The spine and ribs attached had been, as it were, moved upwards; while the sternum was carried in an opposite direction.

Making a strong compression on the vessel above the tumour, the arm became extremely painful, with a sensation of numbness, and on a subsequent and more careful examination, the whole brachial plexus of nerves could be discriminated in immediate contact with the artery.

As the tumour was rapidly increasing, it was evident that, considering its situation and the great danger of delay, no time was to be lost, if any surgical operation was to be resorted to for its relief.

The patient, a person of much fortitude and force of character, agreed at once to the course advised. The operation was performed, on December 24th, in the presence of Dr. J. C. Warren, Dr. Brown, Dr. Buckminster Brown, Dr. Bartlett, of Roxbury, Dr. Morland, and Dr. Slade.

An incision about two inches long was made, extending from near the outer and upper edge of the sterno-mastoid muscle downwards, in the direction of the scapulo-clavicular articulation, and an inch from the edge of the trapezius muscle, the pulsations of the vessel being the principal guide, as the other anatomical marks were wanting. This incision divided the skin and superficial fascia; a second cut opened one of the branches of an artery given off from the thyroid axis, which was tied. A nervous band of some size was now encountered, and at its side and directly over the artery a large vein, apparently the external jugular. The vein was carried to the upper part of the wound with a silver hook, and the nerve to the lower; the dragging upon the latter caused a disagreeable and somewhat painful sensation in the arm.

The sheath of the vessel was next opened, the cellular membrane around it cleared away, and the aneurism needle, unarmed, passed from below upwards, on account of the difficulty of introducing it in the contrary direction from the interference of the scalenus anticus, which had its insertion just below. The needle at once encountered and raised the lower nerve of the brachial plexus, which was in the most intimate contact with the artery. By depressing the handle and urging the point forwards, with careful manipulation the eye of the needle was without difficulty brought out between these two organs. The instrument was now threaded with the ligature and withdrawn. Careful exploration was made to ascertain if any nerve was included in the ligature, the painful sensations in the arm caused by drawing the ligature downwards at first leading to the supposition that this might be the case. But when the same traction was made directly upwards, no pain was felt; the former sensation being produced by the dragging on the cervical portion of the brachial plexus, owing to their connection with the vessel.

The ligature was now tied, and the wound dressed. The pulsations in the aneurismal sac, as well as those of the radial artery at the wrist, at once ceased, and all appearance of tumour vanished. The patient's arm and hand were a little cold directly after the operation, but being rolled in flannel they soon regained their natural temperature.

On the 29th, the pulse was perceived, though feebly at the wrist, but could not be detected in the axilla. The spot formerly occupied by the aneurismal tumour now presents an obvious depression.

14th. The ligature still remains on the artery, notwithstanding the traction daily made by the patient in accordance with my directions. A number of large vessels, taking their origin from the subclavian, exist in different parts of the neck. One of these, apparently the supra-scapular, passes directly over the sac, and pulsates so strongly as at first to convey the impression of a return of pulsation in the aneurismal tumour.

March 30th. Once or twice in the course of the last two or three weeks, finding that the ligature on the vessel was not disposed to become detached, I have seized it with the forceps, and, holding the artery forcibly down on the rib, have twisted the thread with considerable force. This was done for the third time yesterday, and immediately afterwards the ligature separated, *ninety-six* days after the operation. The wound almost at once closed.

I saw this patient on September 14th for the last time. At that period she was quite well, had recovered the use of her arm, and was in no way incommoded by the operation to which she had submitted. The aneurismal tumour had in a great measure disappeared; but it still conveys the impression of con-

taining a fluid. Directly on its surface, and incorporated with it, is a very large arterial trunk, supposed, as above stated, to be the supra-scapular. This vessel pulsates powerfully, and at first gives an appearance of pulsation to the tumour; but by careful manipulation can be separated from it. The pulse at the wrist still remained a little less strong than in the corresponding artery of the other side.

[The author, in the following postscript, gives the further report of a remarkable case, which will be found in "Abstract," Vol. IV. p. 99.]

To those persons who may have noticed a case of ligature of both carotids, in the April number of this Journal for 1846, an account of the state of this patient, after the lapse of three years, may not be without interest.

The object of this operation, it may be remembered, was to allow of the excision of a fungous tumour occupying nearly the whole of the lower lip, and based on an erectile tissue pervading the tongue, face, neck, and chest. This tissue was rapidly increasing, and it was hoped that its growth might be arrested by thus cutting off the direct supply of blood to it. The arteries were tied in the latter part of the year 1845, and the tumour of the lip was then excised, without the occurrence of any alarming hemorrhage.

This patient I have had an opportunity of seeing within a few months, and of making some observations on the state of the circulation in those parts about the face and neck supplied by the carotids.

The situation of the temporal arteries being explored, no appearance of pulsation could be discovered in those vessels. The same was found to be the case in regard to the labial arteries. The angular arteries, where they inosculate with the nasal branch of the ophthalmic, gave the faintest pulsatory motion. In the region of the neck were a number of large vessels having their origin from the subclavian, among which the supra-scapular was chiefly to be distinguished. The lip was rather more full in appearance than when the report of the case was made, but free from ulceration. The functions of the brain had not in any way been disturbed.

ART. 65.—*Operation for Artificial Anus.* By J. MASON WARREN, M. D., one of the Surgeons of the Massachusetts General Hospital.

(Pamphlet from *American Journal of Medical Sciences.*)

Artificial anus is an affection generally caused by the sloughing of the intestine in strangulated hernia, although occasionally the result of abscess and penetrating wounds. Sometimes a small portion only of the calibre of the intestine is destroyed, the bowel becomes attached to the parietes of the abdomen, and a fistulous opening is the result, usually amenable to the ordinary method of treatment. At other times a whole loop of the bowel sloughs off, and both ends of the intestine unite to the abdominal walls, leaving an opening from which the fæces are constantly discharged, and only to be remedied by surgical means.

Cases of the latter character are of unusual occurrence, and the means for their strictly scientific treatment by surgical operation have not, until within a few years, been fully established. The one I intend to relate is, I believe, the only instance successfully operated upon after the method of Dupuytren, in this part of the country, so far, at least, as my medical experience extends.

The patient with artificial anus, of whose case I propose to give an account, was sent to me by Dr. Brown, of Nova Scotia, in June, 1847. She was thirty-four years old, the mother of six children, and previous to the occurrence of the present accident, of good constitution. A small crural hernia had existed on the right side for an indefinite period of time.

Dr. Brown was called to her fourteen months previously, and found her labouring under a strangulated hernia of forty-eight hours' duration. An operation was immediately performed, but, on opening the sac, the intestine was exposed in a gangrenous state. The stricture was therefore divided, and the intestine left in the wound. At the end of a week, the sphacelated portion separated, and the fæces flowed freely through the opening. After some time

she partially regained her health, was able to sit up, and finally to work moderately, until the following September, when abscesses began to form in different parts of the thigh. From this period she gradually lost her flesh, and declined in strength. Two of the abscesses were opened by the lancet; the others, on the under surface of the limb, opened and discharged spontaneously. Pus at first issued, followed by fecal matter, and great suffering attended the effusion of the latter into the soft parts. Until within a few weeks previous to her coming under my care, there were occasional fecal discharges per anum, but the greater proportion of matter was evacuated through the various fistulous openings.

The patient arrived in town in the early part of June, 1847. Her condition at that time was as follows:—

She was extremely weak and emaciated; the countenance pale, nearly sanguineous, indicating the almost total failure of the assimilating process. From long confinement she had become nervous and timorous, hardly allowing the slightest examination.

The position of the patient was almost entirely on her back. The feces, in a very liquid state, were constantly running out through two openings in the groin, and three in the posterior part of the thigh. The right limb was drawn up almost to a right angle with the body, and the whole thigh much enlarged and hardened. The skin around the openings in the groin had a red irritated look, was thickened almost to callosity, and excoriated. The openings were quite small, so as hardly to admit an instrument larger than a common director.

A nourishing diet was allowed and great cleanliness of the wounds enjoined, with the more especial object of preventing the painful excoriations.

The situation of the intestine could not at first be determined, which added to the embarrassment of the case. In those of a similar nature, which I had an opportunity of seeing abroad under the care of Dupuytren, the intestine opened on the surface of the abdomen by a large aperture, and there was no difficulty in exploring at once the end of the bowel with the finger, or by instruments. In the present instance the fistulous openings ran in every direction; those in the groin were immediately in the neighbourhood of the probable orifice of the artificial anus, allowing a probe to penetrate for its entire length.

I therefore determined to dilate the two latter openings, which was done very gradually by sponge-tents, on account of the sensitiveness of the patient to any manipulations; and it required the persevering application of this method for a month, before the two ends of the intestine could be with certainty distinguished. This, however, was finally accomplished, and a gum-elastic bougie passed into the upper and another into the lower orifices of the intestine. The bougie first penetrated through a thick callous mass of integument, then through the muscular or tendinous covering of the abdomen, in all about an inch in depth, when the septum or spur, as it has been called, which separates the two ends, was encountered and with difficulty entered, being so closely applied to the parietes of the abdomen as to prevent the least passage of matter from the upper into the lower part of the bowel. There had not been, in fact, for two months, the slightest fecal discharge per anum. The intestinal ends seemed to lie parallel to each other, so that the bougies introduced for exploring, made but a very slight angle. The patient still remained nervous and quite feeble.

I directed that the sponge-tents should be continued; also that a pint of oatmeal gruel should be given, per anum, daily, for the purpose both of stimulating the intestinal coats to the performance of their natural functions, and with the object of enlarging the calibre of the bowel, which must have become much contracted from long disuse.

On the following day I found that some scybalæ had come away with the enema; and, on the next day, the injected fluid made its appearance at the apertures in the groin.

In the course of a few days the principal opening had become so dilated, that, by a steady and patiently applied force, I could insinuate the little finger quite down to the intestine. The septum could now be distinctly felt lying against the wall of the abdomen, and be hooked up, so as to permit the end of the finger to be carried into the lower portion. The sensation of the valve was that of a delicate membrane, like the coronary valves of the aorta, though

somewhat more resisting. A director was now carried down at the side of the finger for the purpose of keeping the valve open, a gum-elastic catheter passed in, and a quantity of warm water injected, to make sure that the lower orifice had been found. This water afterwards appeared, and was discharged per vias naturales.

The patient being well prepared, I determined to apply the enterotome, which was done July 12th. Having made sure of the lower opening by a director, as on the day previous, the male branch of Dupuytren's enterotome was carried into the lower intestine; the director was then withdrawn, and the female branch introduced with ease into the upper. The two parts of the instrument now occupied nearly the whole calibre of the dilated passage leading to the gut. It was necessary particularly to separate and lock them. This I found at once to be impossible, for the jaws of the female portion would not allow of sufficient motion at the hinge to lock with the other part of the instrument. If the intestine had opened directly on the abdominal surface, there would have been no difficulty, but the locking of the forceps under the existing circumstances was impracticable.

I therefore withdrew the instrument, and had recourse to another, which has since proved much better than the enterotome of Dupuytren. This instrument was about six inches in length; the handle was constructed with a screw-vice, and the joint with a movable pivot, as in that of Dupuytren; the blades, however, were different. In the place of one blade being received into a groove in the other, they were serrated, like the polypus forceps, for the space of three inches. The whole instrument was four inches and a half long, or about two inches shorter than that of Dupuytren. The blades being introduced in the manner already described were locked without difficulty, and at once brought together as tightly as the screw would permit.

On the next day I found her quite free from pain. She had complained a little for a few hours after the instrument had been put in place, but there was a question whether this might not have arisen from fear.

The fæcal matters passed by the side of the instrument, and warm water was daily injected into the wound, to prevent any obstruction. She had also an enema daily, which kept the lower bowel in action.

On July 15th, three days after its application, the instrument came away. In the jaws of the forceps, and bearing the impress of the teeth, was a blackish slough, two inches and a half long, four lines wide, and about three thick. The finger, passed into the orifice, could distinguish an opening between the two ends of the intestine, corresponding in size to the slough, the edges of which were greatly thickened and fleshy, imparting a sensation entirely unlike the delicate valvular one of a few days previous.

This examination was conducted with the greatest delicacy, from fear of destroying the adhesions, which must have been, of course, at this early period, of the slightest kind.

In the afternoon she had a small fæcal discharge through the wound. She complained of no pain, and there was no tenderness of the abdomen.

On the following day, the 16th, she was quite comfortable, had had a free dejection per anum from an enema, more slimy in its character than usual. There had been no discharge from the wound since the day before. A gentle compression was made by means of a compress and bandage on the openings in the groin, and the orifices ordered to be touched daily with the nitrate of silver.

The patient improved in health, rapidly acquired her strength, and there was no farther discharge at the artificial anus from the day of the separation of the instrument until she left the hospital, at which time the openings in the groin had almost completely cicatrized.

On July 29th, being very eager to return home, she was discharged from the institution at her own request, but against my wishes, as I was anxious to watch the progress of the case to its very close.

From a desire to learn the final result of this case, I have lately addressed a letter to Dr. Brown, of Horton, N. S., her physician, and received a reply bearing date May 5th, 1848. In his answer this gentleman informed me, that immediately upon her return my patient was greatly improved both in health and

spirits, the fæces had their natural exit, and everything looked very promising. In a short time, however, owing to over-indulgence in the use of coarse, flatulent food, and the want of that general surveillance so necessary for this class of patients, fæcal matters had again appeared at the old orifice, as well as at several places on the hip, some of which were fresh outlets. This was the condition of things in December, when Dr. Brown was summoned to a meeting of the legislature at Halifax.

"On my return in April," writes this gentleman, "about a week ago, I was quite taken by surprise to find our patient perfectly recovered, looking as plump and gay as ever, and busily employed about her house. Being in haste, and she being busy, I did not examine her, but she informed me that all the ulcers as well as the original outlet were entirely healed, except one new one, and that had not discharged fæcal matters for some time, and was, in fact, nearly healed; that the hip had greatly decreased in size, and had assumed quite a natural appearance; that her bowels were entirely regular, and she could take any kind of food without the least inconvenience. She even said, she had not enjoyed so good general health for several years previous to her misfortune as now."

On reviewing the above case, it will be perceived that it presented difficulties of a formidable character. In the first place, the extreme debility and emaciation of the patient, and her great mental depression, were obstacles almost as troublesome to contend with as the disease itself. Twice, after much labour had been expended, and some progress made in the preliminary treatment, she insisted on relinquishing it at once and returning home; and on the day when the instrument was to be applied, she declared that she was certain she must die the following night, and that it was quite useless to attempt the operation. These depressed turns generally passed after a time, and then the patient was very urgent to have the treatment continued, but for the moment they were sufficiently discouraging to the surgeon.

The numerous fistulous openings, with the effusion of fecal matter into the groin and back part of the thigh, occasioned considerable embarrassment in pursuing the treatment for discovering the end of the intestine. Added to this, and caused by it, the thighs were flexed nearly to a right angle with the body, and were constantly in the way of the instruments used for exploring the artificial openings.

The instrument used I conceive to possess great advantages over that of Dupuytren. In fact it consisted of, or may be almost exactly represented by, a common pair of old-fashioned polypus forceps, with the branches detached and united by a movable pivot, instead of a fixed joint, the handles perforated with a screw-vice, and the jaws serrated throughout. It is less clumsy than that of Dupuytren, causes more complete strangulation, and does its work in less than half the time.* By an examination of the cases of this distinguished French surgeon, it will be found that the enterotome generally separated about the seventh or eighth day; in the present instance it came away on the third, yet no effusion or other evil consequence resulted, although the patient was as little provided with the materials for forming plastic lymph as can well be imagined. She was, in fact, almost exsanguineous.

In the relation of this case we have only mentioned the course of treatment ordinarily pursued by Dupuytren, without alluding to the methods of Physick, Gross, and others in this country or in Europe, who have done so much to advance this branch of surgery.

A case of a similar kind to that narrated occurred to me in an infant some years since, and as it illustrates one of the accidents liable to take place at any moment in patients labouring under this unfortunate affection, namely, a prolapse of the end of the bowel, the details may be here given.

I was requested by the medical attendant of the family to see an infant eight months old, and received the following history from him. He was first called to it when three weeks old: the parents stated to him, that for a few days subsequent to its birth it was in much distress, and had no alvine evacuation until the cord separated, when an exudation took place at the navel, followed by

* I am not aware of the name of the inventor of this instrument, or whether it was constructed for the purpose for which it was employed in the former case.

much relief. Shortly after a small red tumour appeared at this spot, from the central portion of which the fecal evacuations occurred; there was no discharge per anum. He directed them to make use of a compress and bandage over the tumour, and under this treatment the child began to have evacuations by the anus, to gain strength and flesh. I advised that this treatment should be persevered in.

About two months subsequently, after a sudden exertion, a couple of tumours protruded from the navel, attended with some constitutional symptoms, and an entire stoppage of the evacuations. I saw the patient two days afterwards, and at once recognized a prolapsus of both ends of the intestine. The tumours lay across the abdomen, one to the right side, the other to the left; one portion, which proved to be the lower, was dark coloured, and more contracted than the other. The second or upper part of the bowel, was large, covered with mucus, and the vermicular motion could be distinctly seen in it. An effort had already been made to reduce them into the abdomen, but without effect; and a proposition had been made by some physician who had seen the case to apply a ligature to the root. This was done in doubt as to the exact nature of the affection; and, in fact, the parts were so changed, that they were with difficulty distinguished as belonging to the intestinal canal.

The child being cold, its pulse small, and having every appearance of rapidly sinking, I declined for the moment any operation, but advised stimulants, and agreed, if it revived, to attempt an operation on the following day, for the purpose of returning the bowel.

On the next morning, the child having revived under the treatment suggested, the following operation was practiced. A small neck or tunnel existed at the navel where the intestine protruded, being, in fact, the common everted orifice for the two openings of the bowel. An incision was made at this spot, being within the peritoneum, though protruded from the abdominal cavity. The two ends of the intestine as they issued were now seized with a blunt hook, and slight traction made on them. The inverted portion gradually began to recede, and by continuing this manœuvre, at the same time using some external pressure on the tumour, it gradually returned into the interior of the abdomen. The neck of the tumour where the incision was made, and which represented the tunnel-shaped portion, was retained outside, so as to prevent the effusion of fecal matters through it into the peritoneum. Immediately on the return of the bowel, free evacuations took place from the anus, with great apparent relief. The patient, however, did not rally, but sunk, and died on the next day.

An examination after death presented no peritoneal inflammation or effusion, and no attempt seemed to have been made by nature to close the incision of the operation, showing the low state of the vital powers at the time it was done. The upper portion, which had been returned, looked comparatively healthy: the lower was quite dark coloured, and showed the effects of the partial strangulation; an invagination of its coats for about an inch also was discerned.

ART. 66.—*Case of Abscess of the Spermatic Cord, complicated with Hernia and Peritoneal Inflammation.* By W. P. BROOKES, M.D., &c.

(*Medical Gazette*, Feb. 3, 1849.)

R. W., aged 51, of an active spare habit of body, irritable and very anxious disposition, living as butler in the family of a gentleman in Cheltenham, enjoyed uninterrupted good health to within the last few months. Six months back, he, after much pain and suffering, passed a large-sized gravel stone: since that time his usual good health returned.

On Wednesday, June 28th, 1848, I was requested by his master, who had formerly practiced as a medical man, but had retired for the last few years from the active duties of the profession, to attend him. I found the patient suffering from feverishness, constipation, pain in the abdominal region on pressure, and extensive pain around the margin of the ribs on the right side. On examination of the groin I learnt he had suffered for several years from a double inguinal hernia, and for it had constantly worn a truss. There was on the right side, above Poupart's ligament, a round, cup-shaped depression, as large

and deep as a small saucer, caused by the pad of the truss slipping out of its proper position, and extensive pressure having been kept up with the pad, which was hard and convex. On this spot he complained of excruciating pain, and could barely allow it to be touched; the heat of it was far above the natural temperature, and the skin was of a reddish-brown hue.

The pulse was very quick and sharp; bowels had not acted for two days; tongue foul; hernia easily reduced; ordered him five grains of calomel, to be taken directly; black draught in the morning, and a dozen leeches, with fomentations and poultices to be applied to the abdomen; afterwards an enema to be given at bedtime, if he had had no evacuation before that period.

29th. Bowels not opened; enema passed away without any faecal matter; great pain over the whole abdomen, and around the edges of the liver; tongue white and foul; pulse quick and wiry; urine scanty and high coloured. Take two grains of calomel and half a grain of opium every four hours; an enema to be given directly; twelve leeches to be again applied to the bowels, and afterwards warm poultices kept constantly on.

30th. Pain in the abdominal region increased since last night; bowels opened twice; countenance anxious; pulse sharp, wiry, quick, and small; tongue foul. Repeat the calomel and opium; to be bled until the system feels the effect of it, and the pain becomes less.

July 1st. Pain in the abdomen and around the liver much decreased after the bleeding; tongue dry and red in the morning, but at night it became quite moist. Repeat calomel and opium.

2d. Pain entirely ceased over the bowels and liver, but at the spot where the truss was worn it is still very acute and painful: intense hiccough appeared this morning, which gives him uneasiness; countenance shows great anxiety; he takes but little sustenance; more fullness on the spot where he complained of pain, and a swelling of a pyriform shape, extending under Poupart's ligament from this part down into the scrotum, appeared to-day; it follows the course of the spermatic vessels from the ring; the cord is situated behind the swelling, and feels hard, tense, and most painful to the touch; the hernia is not to be discovered; the tongue dry, glazed, and red, but at night it moistens, and has done so for the last few evenings. Pulse 120, quick and sharp.

3d. Hiccough continues much the same, and he rarely gets an interval of five minutes without it; he has also every two or three hours severe fainting paroxysms, in which he can scarcely draw breath, and is compelled to be supported up in bed; when in these attacks he appears as if in a dying state, and they last for two or three minutes at a time; the stethoscope can discover no abnormal signs of disease in any of the viscera or vessels of the chest; the tumour in the groin is hard, red, and painful to the touch; does not fluctuate, nor does pressure exert any influence on it; no intestine can be discovered down; twelve leeches to be applied to it; warm fomentations afterwards. To take beef-tea, brandy and water, and the following mixture: two drachms of spirits of compound sulphuric ether; water, six ounces; one tablespoonful every two hours.

4th. Tongue cleaner, but red and shining; pulse small and wiry, 110. Hiccough continues much the same; paroxysms of difficulty of breathing and fainting less frequent; pain and fullness in the region of the groin increase, but it is softer and more boggy than it was yesterday. Spirit lotion to be kept applied to the parts, and take one grain of quinine, with compound spirits of sulphuric ether every four hours. Bowels are regular, and urine plentiful.

5th. Diarrhoea set in to-day; tongue dry and shining in the morning part, but moist at night. Hiccough continues the same; paroxysms of difficulty of breathing less frequent. Ten grains of Dover's powder at bedtime, and chalk mixture, with aromatic confection, every four hours, until the purging ceases.

7th. Diarrhoea ceased last night. Swelling in the groin and scrotum increases; most painful when touched. Spermatic cord situated behind, is increased in size, hard, and painful. Hiccough less, but still troublesome. Countenance less anxious.

Towards the evening of the 8th I was sent for in great haste, when I found my patient in a dreadful state of collapse, with difficulty of drawing breath; cold perspiration streaming from his forehead and face, and we considered him

in a dying state; he could just swallow. By the use of ether, brandy, and ammonia, he gradually rallied. Warm poultices to be kept applied to the swelling in the groin.

10th. Tumour very painful: will not allow it to be handled much; it extends nearly to the lowest part of the scrotum, and takes quite the shape of scrotal hernia. I can discover no intestine down. Bowels well opened; great sickness came on to-day, and slight fluctuation appeared in the tumour, which is becoming red and inflamed. On moderate pressure, it gives a gurgling noise, as if it contained air. Tongue red and moist. Continue quinine and ether. On a consultation with Mr. Eves and my patient's master, it was deemed prudent not to interfere with the tumour to-day, and warm applications were applied.

16th. Tumour continued increasing in size up to this day: it appears to have no inclination to point on pressure; it gives an increased gurgling-like noise of air, and, on filling it, produces a drum-like sound. We can discover no intestine in the scrotum. To-day we thought it advisable to dissect down layer after layer, as if operating for hernia, and after dividing the first two layers a most fetid offensive matter escaped to the extent of nearly half a pint, raised with bubbles of air. The constitution suffers greatly. To take beef-tea, brandy, and as generous food as he can, with occasionally porter and port wine. Instead of brandy, continue the quinine mixture.

18th. Tongue moist; pulse fuller, and more natural; bowels opened; urine healthy and plentiful; sleeps well. A slough coming away from the wound in the scrotum, which discharges about six ounces daily, and smells most offensive.

18th, 10 P. M. First stage of sphacelus set in this evening on the side of the scrotum, and around the upper portion of the tumour as high as Poupart's ligament. He cannot now feel the parts when touched. Countenance anxious; pulse weaker than this morning. Says he applied a cold poultice to the parts this afternoon. Apply warmth, with flannels to it, for a few hours, and afterwards barn and charcoal poultices. Tongue moist and red; falls frequently into a cold stage of collapse; take egg and brandy mixture frequently.

19th. Pulse fuller and stronger: rallied much since last night. Healthier discharge from the scrotum, and it is becoming more its natural colour and warmth. Can now feel it when touched. Tongue moist: takes plenty of food and brandy. Pulse stronger, and more substance in it. Bowels open and regular. Continue poultices and quinine mixture.

20th. Takes food well: a large-sized piece of slough was cut away from the scrotum to-day. A copious discharge from the parts: the pyriform swelling in the groin still remains. Continue as before.

21st. Going on well; gains strength daily; discharge much the same, but not so offensive as it was. Air occasionally escapes with it when it is dressed. Pulse good; tongue clean; bowels regular.

August 5th. He continues improving; the discharge nearly ceased; wound in the scrotum very trifling, and he can now walk a little.

Sept. 1st. Now quite well: the hernia comes down on the left side, but not on the right to so great an extent as it did before the attack. Still pain on pressure on the spot where the pad of the truss was worn. He wears a common circular truss with a long, oval, concave, soft pad; this at first gave him some uneasiness if it moved up a little, but he now wears it with comparative ease and comfort.

On reviewing the history of this uncommon, and, in many respects, novel case, which I confess terminated more favourably than I ever could have anticipated, I cannot but attribute the first injury to the considerable inflammatory action which was set up in the region of the abdominal ring, from the hard convex pad of the truss having slipped out of its position, and exerting undue pressure on the sheath of the spermatic cord; this inflammation was also gradually extended to the peritoneum, and caused, at the onset of the attack, the severe peritoneal symptoms I had to contend with. The hiccup through the early part of the case was a very troublesome symptom, and doubtless was first caused when the matter commenced forming, as it altogether ceased on the

complete formation of the pus; another obscure point in the treatment was the peculiar gurgling sensation and drum-like sound given out by the tumour when it was examined, and which gave us the idea that it was in some measure either dependent on intestine, or that the tumour communicated with the cavity of the abdomen, and therefore it rendered us anxious not to use surgical interference until more distinct marks of its character appeared. On opening the swelling, the gurgling noise was fully accounted for by the escape of air with the pus, and I doubt not this air was generated by decomposition of the cellular tissue surrounding the parts, and communicating with the sac of the abscess. Another symptom (no stethoscopic examination could discern disease of any of the organs of the chest) was the peculiar paroxysms of syncope; it is quite impossible for any one but an eye-witness to imagine the extraordinary nature of the severity of these attacks, and frequently we considered the patient in a dying state from them. I have some difficulty in attributing them to any cause, for I never before saw anything at all approaching the symptoms; I imagine they arose from the extreme irritation and exhaustion the system was undergoing while purulent matter was forming, for on the complete formation of the pus they gave way considerably, and shortly after the exit of it entirely disappeared. The powers of the constitution in this man were obviously shown, and the benefit to be gained by freely pushing stimulants with care was extremely well marked, for he frequently rallied wonderfully, when all hopes of life had nearly ceased.

The stage of sphacelus which for a few hours appeared, I must attribute to the application of a cold poultice to the part by mistake, and the extreme want of constitutional power in the system rendered cold a dangerous remedy in this state. Upon the application of warmth it speedily gave way, and the scrotum again took on an healthy action. The hernia on the side of the injury descends far less than on the left, and for the first few weeks it could be barely said to come down at all; in fact, its descent now only takes place on violent straining or exertion; this I consider was from the abdominal ring being obliterated in a great degree by the inflammatory action taking place upon and around it. I have found much difficulty (since recovery) in adapting a truss to the right side, from the pain it gave him when he first commenced wearing it, but having now had it constructed with a soft, slightly concave pad in the centre, and elongated nearly half an inch more than usual, he manages to wear it without uneasiness. There is at present some pain on pressure over the abdominal ring, and the cup-like depression from the former pad of the truss still exists. The right testicle and spermatic cord are quite healthy and of their natural size.

The similarity of this disease in many respects to hernia is very strong, and may easily have (at the onset) been mistaken by a careless observer for a case of strangulated scrotal hernia.

1st. It gradually descended from the abdomen in the course of the cord, which was also situated behind it.

2dly. It protruded much while the patient was in the erect posture.

3dly. It gave some impulse on coughing.

4thly. The gurgling noise and drum-like sound of the tumour appeared as if it contained flatus.

5thly. The costiveness and sickness which frequently appeared, and had not the intestine readily returned, would, I doubt not, have led to the belief that the whole of the symptoms arose from hernia.

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—MIDWIFERY AND DISEASES OF WOMEN.

ART. 67.—*Excerpta from Observations on the Nature and Treatment of the various forms of Ovaritis.* By EDWARD J. TILT, M. D.

(*Lancet*, March and April 1849.)

I. *Mode of exploring the condition of the ovaries—per vaginam.*—To examine effectually per vaginam the author recommends that the medical attendant should be placed on that side of the patient where ovarian tumefaction is rendered probable by pain or other signs, and he should use the index-finger of the hand corresponding to that side, while he places the other hand on the hypogastric region, so as to press the ovary forcibly down towards the exploring finger. We are thus easily able to detect moderate-sized pelvic tumours, particularly if, as is often the case, they have gravitated towards the recto-vaginal space.

If the tumefaction is less considerable—if there be only that degree of ovarian congestion which partly produces the phenomena of painful menstruation, &c., the ovary may still be situated above the vagina, and then, in order to feel it digitally, the vaginal cul-de-sac, which surrounds the os uteri, must be raised. To effect this purpose, it is necessary to press the perineum with the three bent fingers, and, when possible, to introduce both the middle and index fingers into the vagina, which gives an additional third of an inch to the exploring instrument. We are thus enabled to estimate the amount of pain caused by pressure on the swollen ovaria, as well as the degree of heat of the vagina, and whether its superior curve is elastic, or hard and resistant, as if infiltrated. Professor Simpson and Dr. Gendrin state, that in numerous cases they have felt enlarged ovaries *in situ* by bringing the organ between two fingers introduced into the vagina, while the other hand was pressed down into the brim of the pelvis on the same side.

By a vaginal exploration we are able to discover whether the tumour is intimately connected with the body of the uterus, or only placed in close juxtaposition to it; thus, in puerperal congestion of the broad ligaments, the tumour is often so moulded as to cap the uterus. In such cases, it is interesting to ascertain whether these bodies adhere intimately, for if the movements communicated to the tumour through the abdominal parietes are felt by the finger placed in the vagina, we may suppose that the tumour and the uterus are intimately connected; we also obtain a correct notion of the diameter of the tumour, one of the extremities of which is at the hypogastrium, and the other in connection with the vagina. The fluctuation of an abscess of the ovaries, or of their surrounding cellular tissue, may sometimes be distinctly felt by a manual examination, particularly after parturition; but even then it is necessary to support the tumour by placing the finger in the vagina, otherwise the semi-mobility of the whole tumour might easily be mistaken for the mobility of its contents. When thus exploring, it is sometimes possible to detect a correspond-

ence of fluctuation between the hand on the hypogastric region and the finger in the vagina. When the tumour is situated sufficiently low down, fluctuation may be detected by examining the patient per vaginam; two fingers (the index and the middle finger) being introduced into the vagina, and placed so as to circumscribe a segment of the tumour. One finger must then be firmly applied to the tumour to receive the shock transmitted by the fluid, while percussion is made with the other finger on the opposite side of the tumour. In the mean time an assistant, by firmly pressing in the hypogastric region, forces the fluid to accumulate as low as possible in the pelvis. The facility of thus discovering fluctuation will be in direct proportion to the thinness of the parietes of the tumour, and its prominence in the vagina. If this mode of investigation fails to render evident the existence of pus, the presence of which is otherwise indicated by rational symptoms, an exploratory puncture will decide the question, without subjecting the patient to either much pain or imminent danger.

Exploration per rectum.—The author agrees with Stoltz and Hirtz (both distinguished professors of the faculty of Strasburg), with Löwenhardt, Cherau, and Dr. Ashwell, that it is possible to reach the ovaries, in their natural situation, by this mode of exploration, and thus to appreciate their volume and their degree of sensibility. Whatever difference of opinion may exist upon this point, all agree that, on account of the thinness and elasticity of this membranous canal, even slight swellings of the ovaries or the neighbouring tissues may be thus easily detected; and that, when the tumour is considerable, it may be the more readily distinguished from the uterus. The advantages to be derived from rectal examination have been more clearly defined by Dr. Cherau than by any other author.

Another mode of examination much insisted on by Recamier is by means of the thumb introduced into the rectum, the index-finger being at the same time in the vagina. By this method tumours of the recto-vaginal septum may be accurately diagnosed.

II. *Subacute ovaritis—symptoms.*—These are considered under two points of view—1. In the interval between two successive periods. 2. During menstruation.

1. The patient experiences a dull pain in the ovarian region, often imperceptible when she is in a state of repose, but awakened by walking, riding, by any sudden movement, or even by pressure on the side. Radiating from this point, the pains are felt across the loins; they descend towards the thighs and fundament, and are of a dull, dragging, heavy, and sometimes of an overwhelming nature. They are seldom so acute as to induce the patient to seek for advice. She may submit to them for years, but should she find them so wearisome to mind and body as to be led to seek advice upon her case, she is frequently treated for uterine disease. Should the patient be married, connection awakens and renders the pains more or less acute. In subacute ovaritis, the hand placed on the iliac regions can sometimes detect an increase of heat; and there may be tenesmus, a desire to pass water, or an inability to evacuate the bladder and intestines, independently of any mechanical pressure on these organs. These symptoms of ovarian inflammation may also be overlooked, or attributed to disease of the womb, inflammation of its neck, or to that scapegoat of uterine pathology, only known in England, and called irritable uterus, a disease regarded as neuralgia by some, as a form of dysmenorrhœa by others, and which, having the same symptoms as subacute ovaritis, I suppose sometimes to be one of the legionic names of that disease. The late Dr. Ingleby noticed that the descent of the ovaries in the vagina produced in one of his patients all the symptoms of the disease called irritable uterus. Subacute inflammation is generally overlooked, but if, in some obscure cases, we are called upon to institute a more attentive examination of the patient: if, for instance, our advice is asked in cases of sterility, and we are obliged to make a most searching investigation into the causes of this lapse of function, then only can we sometimes discover, by a vaginal exploration, an increase of heat in the upper portion of that passage, while the superior curve of the vagina feels hard, and like brawn; but, unless the ovaries are considerably swollen, their increase of di-

mensions will not be detected by this mode of investigation. It may, however, afford an indirect intimation of diseased ovarian action: thus, if one of the ovaries is inflamed, the patient's sufferings are greatly increased by forcibly inclining the neck of the uterus towards it, so as to direct the fundus uteri to the opposite side. The exasperation of the patient's sufferings is then caused by the stretching of the inflamed broad ligament. If both ovaries are inflamed, slight lateral movements, communicated to the uterus by its neck, will greatly increase the pain felt in the ovarian regions. More direct evidence may, however, be obtained by a rectal exploration, for then the finger reaches the ovaries, and finds them more or less painful on pressure, which is not the case when these organs are in their healthy state. They are found to vary from twice to four times their original size. Such are the symptoms of subacute ovaritis, though some authors also mention the increase of pain experienced by the patient when standing on the point of the foot of the side affected. The general symptoms are sometimes absent, but in the more acute cases the local signs of inflammation are accompanied by slight fever at night, thirst, and a furred tongue.

2. The symptoms of subacute ovaritis during menstruation, are merely the exaggeration of those we have already described, and we shall, therefore, not dwell upon them at any length in this place, as, in treating of the terminations of subacute ovaritis, we shall have to consider them in the light of special diseases. With the cessation of the catamenia, the violence of the symptoms will abate, but only to return at the next period. Thus, from the nature of the functions of the ovaries, pertinacity is given to a disease in itself inconsiderable, and which in any other organ of the human body would gradually vanish.

The puerperal variety of subacute ovarian inflammation is not generally admitted, but its symptoms have been so well described by Dr. Doberty, in his short but able paper, that we will use his own words:—

"The affection to which I would now beg to direct attention is stealthy in its nature, and usually makes its approaches so gradually that, for a long time, the existence of any local malady may be unknown to the patient herself, who thus permits it to remain unheeded week after week, until it has perhaps laid the foundation of organic changes, which it may be ultimately out of our power to remove. To this disease I have heard Dr. Kennedy, to whom I am indebted for my knowledge of it (for I have in vain sought in books its accurate delineation), give the name of secondary inflammation, by which he meant to imply the usually late period of its occurrence, and not that it must necessarily be preceded by a more acute or other morbid process. It is not my intention to deny that the local changes which I am about to detail may result from or be, as it were, the remnant of a more intense degree of inflammation; but the fact I wish to demonstrate is, that the appendages of the uterus are liable to become the seat of an inflammation, but feebly announced by symptoms from the very first, and occurring after the period during which the parturient female is usually considered obnoxious to such attacks.

"The history of these cases is generally as follows: The patient has probably had an easy labour, and her progress been so favourable, we have ceased our attendance; or, if an hospital patient, she has been dismissed, on the usual day, free from complaint. Convalescence proceeds uninterruptedly for some days, or even weeks; but, after exposure to cold, she is seized with shivering, succeeded by hot skin and quick pulse, and a dull weight about the pelvis. After a few hours, the feverishness disappears, and, although some uneasiness still remains about the lower part of the abdomen, it is not sufficient to excite any apprehension in her mind, and thus a considerable space, of time may pass over. Febrile paroxysms, however, recur at intervals, and at length becoming more frequent, and stiffness and pain being felt on moving the leg of the affected side, she again applies to us for advice."

By a careful examination, the local disorders already described will be detected; but the ovarian congestion will be more considerable than in the idiopathic variety, and will be accompanied by considerable sero-purulent infiltration of the adjoining cellular tissue, and even of that of the vagina, which gives to the finger the sensation of a dense, brawny substance, particularly in its anterior curve.

Treatment of subacute ovaritis—bloodletting.—Venesection is unnecessary, but advantage is generally derived from local bleeding. Leeches are more efficacious than cupping. In applying them, however, it is to be borne in mind that a small number may increase the congestion of the pelvic organs—a plan of treatment, in fact, which is daily employed for the purpose of determining menstruation. We must, therefore, order a number sufficient to make a decided impression on the local inflammation (from ten to twelve). They are to be applied over the inguinal regions; it is not necessary to apply them to the uterus itself.

Injectiōns.—These are most valuable addenda to the preceding remedial measures, if administered with due attention. Their composition should be similar to that prescribed in the case given as an apt illustration of the plan of treatment which we have found to be successful. Sometimes, however, the tincture of belladonna, or of opium, has been substituted for that of hyoscyamus. With respect to this administration of injections, the bowels having been previously opened, and injections of tepid water having been previously made, four or five ounces of the tepid enema should be injected slowly into the rectum, the patient being told to retain it as long as possible, and lying on her back, so that the pelvis may be somewhat higher than the rest of the body. This injection should be repeated three or four times a day; and, when we consider that the liquid injected is only separated from the inflamed ovaries by a thin, elastic, and highly absorbent membrane, it will not be difficult to understand that enemata, thus carefully given, are productive of the greatest advantage. When the patient is cured, the medicated enemata should be discontinued; but for a time they should be replaced by tepid water injected into the rectum morning and evening. We agree with Cullerier (senior) and with Lisfranc, in ascribing no utility to narcotic vaginal injections; they rather irritate the tissues, than subdue their inflammation. While treating of this subject, we may remark on the powerful effect of cold water enemata in arresting a tendency to hysterical seizures, and suddenly removing them when they already exist. Is not this sudden cessation of alarming symptoms, immediately after throwing cold water on the ovaria, a proof of these organs being materially implicated in the production of hysteria?

Blisters.—As soon as the leech bites are healed, blisters of four or five inches in length by three in breadth should be applied over the ovarian regions. The blisters must be carefully camphorated, so as to guard against the distressing symptoms of dysuria. The epidermis must not be removed from the skin, and the irritated surface should be healed as soon as possible. The antimonial ointment, so strongly recommended by Dr. Rigby, might be prescribed, in case the mercurial frictions did not produce the desired effect. Dr. Rigby says: "I know of no application so efficacious as the antimonial ointment well rubbed into the part, and, when the eruption comes out, applied by a piece of lint, until a slight degree of sloughing is produced. The only objection is that the patient is occasionally attacked with nausea, faintness, and other symptoms."

Medicated frictions.—As soon as the surface of the skin is sufficiently healed, we must have recourse to other means of relief. Before mentioning the applications we generally prescribe, we must remind the reader that frictions on the ovarian regions have often been advantageously employed by Boivin and Dupareque, in France; by Granville, and without doubt by others, in England. Madame Boivin says that, in several cases of inflammatory adhesions of the broad ligaments, accompanied by dysmenorrhœa, pains, constipation, and tendency to abortion, she relieved the patients by persisting in mercurial frictions over the ovarian regions; and she adds that this treatment not only stopped the pains, but re-established the proper catamenial discharge, cured the ovarian irritation, and imparted to the uterus the power of retaining its fruit until it was in a condition to be brought forth alive. Dr. Granville has also cured the tendency to that species of miscarriage produced by ovarian irritation, by combining the repeated use of castor oil with mercurial frictions. We have derived increased benefit from mercurial frictions, by mixing narcotic extracts, such as extracts of hyoscyamus, belladonna, and opium, together with mercurial ointment, in the proportion of a drachm of the extract to an ounce of the ointment.

This we find more effectual in allaying the element pain, which is in itself a perpetuating cause of irritation; and as camphor is acknowledged to have a cooling effect on the system, we combine this drug with the mercurial ointment both on that account, and because of its antaphrodisiac properties.

I can safely recommend to the profession the use of the compound mercurial ointment; for, at the public institutions with which I am connected, it is my practice to prescribe it whenever a patient complains of ovarian pains (pains in the ovarian region, extending to the loins and thighs), depending on deranged menstruation, or previous severe labours. In the milder cases, the pains subside after the ointment has been used for a few days; and in many others, when the pains had followed severe labour, had been considerable, and lasted for two or three years, I have seen them disappear after the use of the ointment has been continued for six weeks or two months. In some cases, the use of the ointment has been followed by the cure of a leucorrhœal discharge, from which the patient was also an habitual sufferer. These facts have, in themselves, a practical value, whatever may be the explanation given to them.

It appears that, in the Dublin Lying-in Hospital, frictions with iodine ointment are made, internally, to the roof of the vagina, in those cases which Dr. Kennedy used to call secondary ovaritis. I think the practice dangerous, for certain reasons, so evident that they preclude the necessity of enumeration; but I have sometimes employed, with benefit, the medicated pessaries recommended by Dr. Simpson. The medicated ball, being allowed to melt, its active components are enabled to exert a permanency of action in the generative organs. The following formulæ can be recommended: Extract of belladonna two drachms; camphor ten grains; yellow wax a drachm and a half; lard six drachms.—Strong mercurial ointment two drachms; extract of belladonna one drachm; yellow wax two drachms; lard an ounce. According to the circumstances of the case, they may also owe their medicinal virtue to iodide of potassium a drachm; acetate of lead two drachms. For each pessary.

General treatment.—Is it necessary to say that the general treatment of the patient should be such as will invigorate the constitution, without increasing the local irritability, and determination of blood to the pelvic organs? Should the patient be married, sexual indulgence must be prohibited so long as there are any signs of ovarian inflammation, and afterwards only permitted in moderation. We might enumerate many other things to be avoided, but in so doing we should be obliged to repeat the enumeration of the causes of subacute ovaritis; for a perusal of the chapter wherein they are set forth will show what are the stimuli, moral as well as physical, which must be guarded against, and also the diseases which must be relieved previously to the curing of the subacute ovaritis they have entailed; I here allude to metritis, leucorrhœa, &c. Whether these arise by the propagation of inflammation, by continuity of tissue, or whether they have been caused by the indiscreet interference of the medical attendant, they can speedily be cured by an active antiphlogistic plan of treatment; for the disease is not constitutional, but it is communicated to the ovaries as in other cases of accidental inflammation, so widely differing from those in which it is idiopathic, and springs up of itself in some particular organ, as a proof of the contamination of the whole system, which then perpetually feeds the local disorder.

ART. 68.—*On Congestive Dysmenorrhœa, with an Account of a New Depletory Apparatus for the Uterus.* By JAMES WHITEHEAD, F.R.S.

(*Medical Gazette*, April 13, 1849.)

[After alluding in complimentary terms to a paper on dysmenorrhœa by Dr. Oldham (see Abstract, Vol. V. p. 127), the author proceeds to state that, besides the forms of painful menstruation therein alluded to, there is another, which, from its phenomena and pathological conditions, may be termed *congestive dysmenorrhœa*. It is thus described:—]

Congestive dysmenorrhœa consists, essentially, in a state of vascular hypertrophy of the uterus and its appendages, and is associated, to a greater or less extent, with a similar condition of the portal circulation generally. The whole,

or a considerable portion of the uterus, is found to be large and weighty, descending in the vagina to a point below its natural position. The cervix is tumid, occasionally excoriated, or presenting a granulating surface; and although sometimes hard and resistant, is more commonly less firm than natural, erysipelatous, varicose, cedematous, or spongy. Its body, upon tactile investigation, is hypertrophied, and not unfrequently painful under moderate succussion made with the finger. The enlargement is sometimes equally pronounced on all sides, but is as frequently partial, implicating, in the majority of instances probably, the posterior wall, in which case the organ is thrown backwards into the hollow of the sacrum, constituting the position of retroflexion or retroversion; and resting heavily upon the rectum, materially interferes with the function of defecation. Occasionally, however, the anterior wall is the seat of engorgement, the uterus assuming the position of antelexion or anteversion, and exerting an undue degree of pressure upon the bladder; the capacity of this viscus is consequently diminished in proportion to the extent of the encroachment, and influenced, moreover, by a lively sympathy with the part affected, through the intimate relation which exists in the nervous apparatus of the one and the other, the necessity for its evacuation becomes distressingly urgent. The walls of the vagina are commonly relaxed, the labia externa swollen and sometimes marked with venous distension, which state is seen to prevail also about the upper parts of the thighs. The hemorrhoidal vessels are in like manner implicated, accompanied with effusion of blood, which escapes per anum, generally regarded as the result of piles existing within the lower bowel. The orificium uteri is sufficiently capacious, admitting freely the uterine sound, the presence of which within the organ is generally unattended with any manifestation of that highly irritable condition under which the dysmenorrhoeal membrane is produced.

The discharge of blood during the natural menstrual period is, for the most part, scanty and irregular, always unmixed with shreds of membrane, and rarely clotted; it often abates or entirely ceases on the second or third day, and recommences after a few hours, to be continued for a longer or shorter period. These interruptions are, in some instances, several times repeated in the course of one menstrual crisis. The blood is thick and dark-coloured, in some rare instances thinner and mixed with clots; and a watery leucorrhoea prevails during the free catamenial intervals. In cases complicated with ulceration of the cervix, the leucorrhoeal discharge has more consistence, and is of a yellowish hue.

On the approach and during the existence of each menstrual change, the symptoms which more especially attract the patient's attention, are aching of the loins and sacrum, of the hips, and across the hypogastric region, which is usually the seat of painful distension, accompanied with a pulsatile movement synchronous with the heart's action. The aching is also felt along the thighs, and is sometimes extended to the feet and ankles. Alarming attacks of hysteric convulsions, or aguish rigors followed by febrile reaction, with physical prostration and aching pain throughout the body, are not uncommonly the immediate precursors of menstruation under the circumstances here indicated; and should it so happen that the periodical discharges do not occur to relieve this state of local plethora, inflammatory congestion of the uterus or of some other viscus will be the almost inevitable consequence. The patient is usually admonished of the impending crisis by the advent of some of these symptoms a length of time before its accession—generally from one to five or six days.

Congestive dysmenorrhoea occurs in women of all ages; and, so far as my experience extends, it is more commonly met with in the married than in the virgin state. It often exists in the barren, and in those who have experienced repeated abortions.

The treatment involves the necessity both of local and constitutional measures. Of the latter kind, depletion, the use of the warm bath when practicable, and of alterative medicines, are, from the state of the vascular system, plainly indicated. If the patient be plethoric, and the symptoms acute, bleeding from the arm, or by leeches applied to the abdomen, to the amount of eight or ten ounces, may first be practiced. This should be followed by the exhibition

of three grains of pil. hydrarg., or one grain of calomel, combined with a quarter or a third of a grain of antimony, with or without hyoscyamus or opium, as the urgency of the prevailing symptoms may seem to require, given every night, or twice in twenty-four hours, and a draught of the following kind twice or thrice a day:—

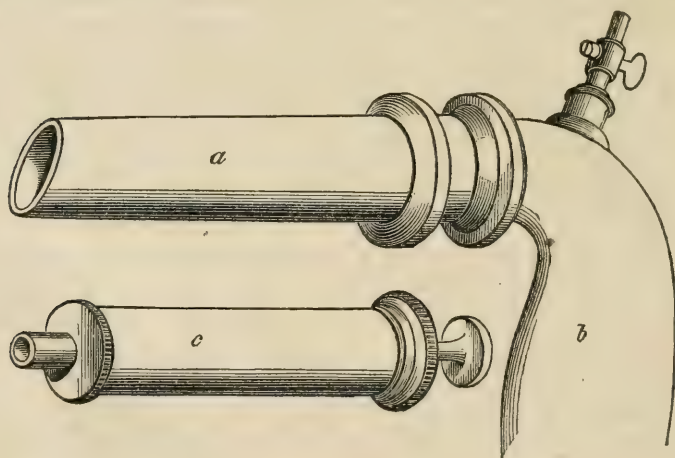
R. Ferri sulph. gr. ij ;
 Quin. sulph. gr. $\frac{1}{2}$;
 Magnes. sulph. ʒj ;
 Acid. nitric. fort. gtt. iv ;
 Tinct. hyoscyami m℥ xx ;
 Aq. menth. pip. ʒj.

Misce ft. haust.

These, or remedies of a similar nature, should be used until a decided change in the character of the secretions is manifest. If the symptoms be of a more chronic character, general bleeding may be dispensed with, and local depletion at once put in practice; but the latter will be much more effective if adopted a short time before the appearance of the menstrual discharge, when, in consequence of the natural organic determination, the blood may reasonably be expected to flow more freely.

Two or three days before the catamenial change is expected to come on, from three to eight or ten ounces of blood should be abstracted from the lower part of the uterus, either by leeching or by cupping, in the manner presently to be described, or by both these measures conjointly.

[The method alluded to is by the aid of an apparatus of which we give a faithful representation.]



This apparatus, a species of cupping instrument, represented in the adjoining woodcut, consists of a tube (*a*), similar in shape and dimensions to an ordinary-sized speculum, having a shoulder of glass placed half an inch from its outer or large extremity, from which shoulder outwards the surface of the tube is nicely ground, in order that it may be adapted to the mouth of a gourd-shaped bulb (*b*), also ground on its inner aspect, and within which the tube is received and accurately fitted. The adaptation may be more perfectly secured by previously coating the opposing surfaces with pomatum. The bulb is also provided with a small tube projecting from its neck, to which a stopcock is fitted, intended for the application of an exhausting syringe (*c*), to be used at pleasure.

When it is judged necessary to augment the discharge of blood after the application of leeches, the speculum must be immediately replaced by the tube of

the cupping apparatus, care being taken that the cervix uteri be fairly received within its upper aperture. The bulb, into which a small piece of burning lint saturated with spirit has been thrown, must then be adapted. If the connection shall have been well secured, a powerful suction is speedily produced, sufficient to continue the bleeding to a considerable amount. It will generally be found necessary, however, after a short time, to renew the exhaustion by the aid of the syringe, which can be done with facility, and in this manner any required quantity of blood may be obtained without loss of time.

The above is the course I formerly pursued; but I now usually dispense with the aid of spirit as an exhausting agent, and employ the syringe alone.

But the cupping apparatus can be made available without the aid of leeches. It may be used with scarification, the cervix being first punctured in several places with a lancet, or the inner cervix being scarified either with this, or, what is still better, by means of Simpson's concealed bistoury, and bleeding promoted in the manner already noticed. This is a more expeditious mode of effecting depletion; but the blood does not generally flow so freely from lancet punctures as it does from leech-bites. It will be amply sufficient, however, in the slighter forms of congestion.

There are cases, moreover, wherein the apparatus in question can be advantageously employed without either leeching or scarification. In debilitated subjects suffering from congestive dysmenorrhœa, it may be used with great benefit, for the purpose of bringing the exhalant function of the uterus into more vigorous and efficient action. For the attainment of this end it must be applied at the commencement or during the existence of menstruation, and repeated daily for two, three, or more days in succession. It generally happens, in such cases, if the instrument be well managed, that the discharge, if it has already commenced, is at once augmented, and will continue to flow more or less freely for some hours, accompanied with corresponding relief to the sufferings of the patient.

In any of the modifications of congestive dysmenorrhœa, now alluded to, the aid of constitutional treatment will be found necessary for a length of time, and the local appliances will also, in all likelihood, have to be called into requisition during more than one menstrual crisis, ere the function be fully established.

[The paper concludes with illustrative cases.]

ART. 69.—*On the Use of Bichloride of Mercury in Hypertrophy and Induration of the Uterus.* By Dr. OLDHAM.

(*Guy's Hospital Reports*, October 1848.)

The author's observations, to which we briefly referred in our last volume, are limited to two diseases: first, an affection of the womb characterized by engorgement, hardening, and frequently displacement backwards; secondly, disease of the cervix, in which it becomes irregular, hard, and nodulated, with a surface of vascular granulations. He states that these diseases have of late years been treated by caustic in this country, and by the actual cautery in France; both which he, after mature experience, considers as hazardous and inexpedient, and inferior to the treatment it is his object to describe.

Chronic engorgement with induration of the uterus is considered to be either: 1, primarily an affection of the womb; 2, it may be induced by ovarian irritation; it may be caused by disorders of the digestive system, in which case it is associated with copious elimination of lithic acid, and often by hemorrhoidal swellings.

The first class of cases are those commonly met with, and are immediately referable to labour or abortion; the venous circulation of the uterus never recovers itself completely, and the body of the womb remains large and congested. It rarely happens that the structures which support the womb are able to support the increased weight, and displacement downward and backward is the general result. It is usually a slow process before the uterus becomes indolently hard, but every stage of its progress may be traced by examination. At first, the organ is large, and more or less displaced; but by

passing the finger to the upper and back part of the vagina, the body of the womb may be touched *by itself*. In this stage, the uterus is painful when touched. It is a sure sign of a congested uterus when, in addition to any pain which its displacement occasions, it acquires a dull, or, in some cases, a lively sensibility when touched. This sensibility is lost as the tissue becomes indurated. The size and degree of induration vary. The author states that he has sometimes found the posterior part of the womb as large as a moderate-sized orange. He has known this condition follow puerperal metritis, as also that form of metritis which is excited by sudden suppression of the menses, or the injection of an irritating fluid into the uterine cavity.

2. The second cause of congestion and hardening of the uterus is to be ascribed to ovarian irritation. It consists of great vascular turgescence, so that the walls swell out and soften. The author has known this form arise during protracted membranous dysmenorrhœa. He illustrates the effect of repeated ovarian excitement by reference to the altered condition of the uterus and its appendages in prostitutes.

3. The last series of cases of congested uterus, with subsequent enlargement, are those in which the internal sexual organs appear to be secondarily affected, the primary disorder being seated in the digestive system. This is commonly induced by a too rich and stimulating diet, by neglect of the bowels, and it may be associated with a gouty habit.

On the displacements of the uterus consequent upon its hypertrophy and induration.—The most common displacement referred to by the author is a sinking downwards of the whole organ, its axis being at the same time inclined backward. He does not meet with instances in which the unimpregnated uterus is so displaced that the os is tilted forwards under the pubes, and supposes that the diagrams so representing the empty womb are caricatures rather than faithful representations. The most usual inclination he finds to be as much backwards as it is normally placed forward. The effect of this, however, is to bring the posterior wall within reach of the finger, when it is felt to bulge out so abruptly from the cervix as to lead to the supposition of a real *flexion* of the womb.

This degree of retroversion does not, in the author's experience, mechanically impede the functions either of the bladder or rectum, unless the female have a narrow pelvis. Those cases in which these impediments exist have generally arisen from the retroversion being caused by accident or violence, of which the author alludes to three instances.

The particular form of retroversion in which a bulky posterior wall projects abruptly from the cervix, is, the author observes, the only approach he has been able to make to the descriptions of *retroflexion* of the womb, and he therefore is disposed to deny the existence of that displacement altogether. He thinks that the existence of such a displacement has been supposed, in consequence of the deception which has arisen in the similarity to the touch of this bulging of the posterior wall of the uterus, and flexion of its body. The cases which he has been at one time impressed with the idea of retroflexion, have uniformly been found to be of this nature on more careful inquiry.

Symptoms.—A disease so varying in extent, produced by different causes, and occurring in women of different temperaments, is necessarily associated with diversity of symptoms. The author divides them into: 1, those produced by sympathy; and 2, those of a local kind.

1. *Sympathetic disorders.*—There is scarcely an organ in the body which may not be functionally deranged from a primary organic change in the uterus. Sometimes one, and sometimes another organ, is so prominently affected, as to divert the attention from the uterus, whilst in other cases these secondary derangements are trifling. Hysteria in all its forms, neuralgia, acute submammary pains, and intense periodic headaches, harass the patient, especially when the general health is feeble, and, in some instances, mental disturbance, and even complete alienation, may be the consequence. Of this a very instructive case is recorded. It is the digestive system which more uniformly suffers than any other, in sympathy with the solid engorgement of the uterus. The author has known the morning sickness of pregnancy for weeks together exactly imi-

tated in this disease; but in general the more common signs of dyspepsia are present, such as loss of appetite, flatus, irregular bowels, &c. The continuance of these symptoms interferes with nutrition, and the patient loses health and spirits; she becomes habitually torpid and ailing, and disorder of the general health ensues. The great practical danger is that the stomach, and not the uterus, receives the attention of the practitioner.

Local symptoms.—These are not confined to the sexual organs, but include the bladder and rectum. The bladder is more commonly affected by nervous irritation than by actual pressure. It rarely happens that the catheter is required. The more usual vesical symptoms are, sharp darting pains near the orifice of the urethra, with frequent desire to pass water, and sometimes, especially about the monthly periods, a painful strangury. Incontinence of urine is not common.

Constipation is generally associated with this and other uterine diseases; but it may be questioned whether it arises from mechanical causes. As a general rule, the author thinks that it is chiefly due to habitual neglect of the bowels, though he admits that in some cases the obstruction may be due to the pressure of the enlarged uterus upon the rectum. Two such cases are narrated.

The symptoms which arise from the uterus itself are partly functional, and partly organic. There is sometimes profuse monthly discharge, but there is no uniformity in this respect; sometimes the periods are irregular and scanty; at others, a deciduous membrane, or shreds, are expelled with coagula, a form of secretion elsewhere shown by the author to depend on ovarian congestion and irritation. (See "On two forms of Dysmenorrhœa," Half-Yearly Abstract, Vol. V. p. 127.) Towards the last menstrual crisis, copious floodings not uncommonly supervene. In the inter-menstrual periods, there is more or less discharge of a glairy, tenacious mucus, variously mixed with pus, or thin, subtile discharge.

Sterility is noticed by the author as a common result of the solid engorgement of the uterus, whether it is displaced or not. Drs. Simpson and Rigby, and Mr. Lee, attribute the symptoms to the displacement itself; but the author doubts this mechanical explanation, but believes impregnation to be prevented by the morbid state of the ovaries and uterus, with the increased and altered secretions of the cervix and vagina.

The symptoms which result from the size and displacement of the womb itself, are those which most strongly attract the attention of the patient. These consist of pains in one or both inguinal regions; pains of a bearing-down character felt about the sacrum, and extending to the hips and thighs, which pains are relieved by lying down, and aggravated by long standing and walking. Sexual intercourse is occasionally painful.

Diagnosis.—Many diseases of the womb and its appendages are attended by much the same class of symptoms as those above described. Amongst these, Dr. Oldham mentions small fibrous tumours placed centrally in the posterior wall of the uterus, ovarian tumours in the recto-vaginal pouch, and a womb enlarged by early pregnancy. The only means of diagnosis is that afforded by vaginal examination. The results are as follow:—

It generally happens, when the uterus has been for a long time congested, that the vagina loses its tone. The womb itself is commonly felt low down. The cervix generally participates in the engorgement, and becomes more solid. The os uteri is commonly more open than usual, and soft granulations may be detected on one or both labia. The cervix is placed vertically in the pelvis, or looks forward. Passing the finger to the upper part of the vagina, and carrying it backwards and upwards, an even, round swelling, more or less large and continuous with the cervix, may be felt. This is sometimes painful, but the patient has always an organic perception of it. Not only is the swelling felt to be continuous with the cervix, but it moves with it, and the whole womb may be tilted forward by pressing it backward.

Speaking of Simpson's uterine sound, Dr. Oldham acknowledges its value; he is, at the same time, "bound to say that it is not altogether a harmless instrument, and that it needs to be restricted in its use, and to be employed with gentleness and discretion." In the disease in question, he has known serious mischief induced by it. In one case, the patient was seized with severe abdo-

minal pain, incessant shivering, vomiting, and high febrile symptoms. In another case, abscess was produced by its use: in neither was any force used in its introduction. He also regards the possibility of destroying an ovum, as an objection to its frequent employment, having known three cases in which the membranes were inadvertently punctured by experienced obstetrical practitioners.

To distinguish between fibrous tumours of the uterus and chronic hypertrophy is generally easy. They are characterized by being circumscribed and uneven, hard, and insensible. If, however, the tumour is more uniform, and limited to the posterior wall, the diagnosis becomes difficult or impossible.

The diagnosis from ovarian growths and tumours of the broad ligaments is thus made out: An ovarian cyst, in its earliest stage, is a round, hard swelling, placed behind the womb, and pushing it bodily forward. As it enlarges, it gets before and above the organ. A hard strumous or fibrous tumour of the broad ligament is sometimes placed close behind the womb, and it is in their incipient stage that they have to be distinguished from enlargement of the womb. In many of these cases, the diagnosis can be made out by feeling the whole of the womb before the tumour, the cervix being close behind the pubes, and as far as the finger can reach, running vertically upwards. Sometimes, however, the diagnosis is very obscure, and these are the cases in which a cautious use of the uterine sound is required.

Dr. Simpson mentions another kind of tumour which may be confounded with a retroverted uterus, which he names "pelvic cellulitis," a form of inflammation which may stop short of suppuration, and remain as a hard, indolent swelling. The author has notes of four similar cases, all of which occurred in strumous women.

Treatment.—The treatment of the disease to which this essay is devoted is divided by Dr. Oldham into: 1, the reduction of the size of the uterus; 2, the strengthening the weakened structures; 3, the improvement of the general health.

To fulfil the first indication, he mentions, first, *depletion*. Local depletion may be practiced by cupping on the loins; by scarification of the cervix, and by leeching the same part. Of these he prefers the application of four or six leeches, repeated according to circumstances. The cases in which this is required are those in which the uterus is swollen and painful from congestion, a state which precedes the induration.

Counter-irritants.—Blistering the sacrum or inguinal regions is often followed by immediate relief, and promotes the reduction. The author also uses the following combination, where a mild counter-irritant, and at the same time powerful sedative effect, is required:—

Tinct. aconiti (Fleming's) ʒiv;
Ext. belladon. ʒss;
Lin. camphoræ, C. ʒiiss. Ft. lin.

Iodine.—The author has used iodine and its preparations, externally and internally, in chronic induration of the uterus, and believes that their virtues are much overrated. In some cases, he has thought that they aggravated the congestion.

Mercury.—The effects of the more powerful preparations of mercury in the acute inflammations of the womb are well known; but the agency of the milder preparations, long continued, in causing absorption of a hypertrophied womb, is, in the author's opinion, not justly appreciated. Of these, he considers the bichloride of mercury to possess peculiar advantages in the facility with which it may be combined with other remedies, as a vegetable tonic, or chalybeate. He gives it in doses of one or two drachms of the liq. hyd. bichlor., twice or three times a day. It rarely salivates, excepting the patient is exceedingly susceptible to the effects of mercury. The reduction of an indurated womb is generally slow, but in some cases six or eight weeks will suffice to absorb and soften a considerable hypertrophy.

Amongst the prophylactic measures to prevent fresh attacks of congestion, the author particularly urges the habitual relief of the rectum and colon, by

tepid injections, or saline aperients, such as a combination of rhubarb and sulphate of potash. Long standing and sexual intercourse ought to be avoided, when they produce uterine tenderness.

In strengthening the tissues, much benefit is to be obtained from cold, alum hip-baths, with tannin suppositories, and astringent injections. The author strongly objects to pessaries, and trusts to an abdominal belt combined with a perineal pad. He does not dare employ Simpson's uterine supporter, the use of which we have before mentioned. (See Vol. VII. p. 261.)

The author does not refer to the last indication of treatment at any length, as the sympathetic symptoms are various, and their treatment is subservient to that of the womb. He approves of bismuth to allay gastric irritation.

ART. 70.—*On the Treatment of Uterine Catarrh, by Injections into the Uterine Cavity.* By Dr. E. STROHL.

(*Revue Méd.-Chirurg.*, Nov. 1848.)

The practice of injecting the uterine cavity has of late years been revived, but it is objected to by many, on account of the severe symptoms to which it has occasionally given rise. Thus, Lisfranc observes: "The injection of the cavity of the uterus has been much vaunted as a cure for uterine catarrh; but the brilliant success which was at first anticipated has been followed by the most disastrous results. Women have died from peritonitis, induced by the escape of the injected fluid through the Fallopian tubes into the abdominal cavity. Even if it does not thus escape, it is easy to conceive that acute metritis may be induced, which may extend to the serous membrane; and for this reason I reject all irritating or astringent uterine injections, unless the life of the patient is threatened by the disease for which they are adopted." (*Chir. Clin.* ii. p. 326.)

It thus appears that Lisfranc is deterred from the employment of uterine injection by the fear of peritonitis, and that this peritonitis may occur either from the introduction of irritating fluids into the peritoneal cavity, or by extension of inflammation from the uterine tissue. These are serious objections, and deserve our attentive consideration. It cannot be denied that the passage of fluids by the Fallopian tubes is possible, but cannot the accident be prevented? It must be recollected that these tubes are long, tortuous canals of very small calibre, and still smaller in their entrance into the uterine cavity. Fluid injected into the uterine cavity will not traverse these canals, if it can find a more ready outlet; all, therefore, that is required is, to use an instrument which shall have a means of exit for the fluid.

[The author has been anticipated in this by Dr. Every Kennedy, who has recommended a special instrument for the purpose of avoiding danger, and which is described in a former volume. (See Abstract, Vol. V. p. 131.)]

The second mode of production of peritonitis is more probable in its occurrence, but not so likely to happen as is represented. The uterus is continually subjected to the application of the knife, caustics, &c.; and all sorts of instruments are introduced into its cavity; but it is rarely that dangerous symptoms result. And even if metritis be developed, it does not follow that it should extend to the peritoneum; and when it does, it is, we believe, oftener the fault of the physician than of the mode of treatment.

In order to obviate danger, two things are to be considered—the mode of using the injection, and the qualities of the injection itself.

The operation requires the following instruments: 1. A speculum of full size. 2. A gum-elastic sound, open at both extremities, and of size sufficient to allow a reflux of the injected fluid. 3. A syringe of ordinary capacity. The speculum and sound being introduced, the fluid is to be slowly injected, no force being used to overcome resistance. The sound is to be introduced about an inch or an inch and a half.

The fluid generally employed by the writer is a weak solution of acetate of lead. He also occasionally uses a solution of iodide of iron, from \mathfrak{zss} to \mathfrak{zj} , to \mathfrak{ziv} distilled water, as well as a solution of nitrate of silver. The injection may be repeated every day, unless some tenderness is induced, when an interval of

one or more days should be allowed to elapse. They should also be omitted for a few days preceding and after the menstrual periods; the operation is not attended with pain. The discharge is often immediately changed in character, becoming pure white, and less thick and abundant. It then remains stationary in appearance for a few days, after which it diminishes still further in quantity, and becomes transparent. When this is the case, the injections may be suspended.

It need not be stated that injections into the uterine cavity are not admissible in acute or subacute inflammation of the organ. Hypertrophy of the cervix does not, however, contraindicate their use; ulceration of the os and cervix, when present, should be treated by cauterization previously to attempting the cure of the uterine catarrh.

The accidents which are liable to supervene upon the employment of injections into the cavity of the uterus are transient hypogastric pains and hysterical attacks. The pains are probably caused by the temperature of the injection, and may be prevented by using it tepid. The hysteric symptoms are not of importance, unless they appear after each injection with unabated severity, when the treatment ought not to be persisted in.

[The author's observations are chiefly derived from the class of prostitutes, most of whom had been the subject of venereal diseases. The discharge consisted of an opaque, tenacious mucus, and could be seen to issue from the os uteri. He records twenty-nine cases, in twenty-five of which the treatment was successful. In the majority, the solution of acetate of lead was found sufficient; in one or two only was it necessary to resort to a more stimulating medication.]

ART. 71.—*On Cerebral Disturbance, the Result of Uterine Disorder.*

By G. CORFE, Esq., M.D.

(*Medical Times*, April 4, 1849.)

The author has observed a peculiar train of symptoms in connection with the climacteric period of females. The subjects are ordinarily from thirty to forty-five, and it occurs more frequently in barren or unmarried individuals. The symptoms, as far as the author has hitherto observed, are ushered in with occasional flushings of the face, succeeded by more or less perspiration, a sense of faintness, and subsequent depression of spirits. Sudden pain then ensues, either occipital, frontal, or in the course of the longitudinal sinus, where, as with some women, the hair is parted; the sensibility of the scalp is increased, and the pain is oftentimes momentary in its onset, and partial in its seat. As the disorder advances, there is more or less noise in the head, described as humming, buzzing, singing, or rumbling; then come on deafness of one ear, *muscæ volitantes*, palpitations, irregular action of the heart, an oppressed pulse, a weight over the forehead, or at the back of the neck; a frequent sense of formication over the face and chest, especially whilst the person is warm in bed and about to lose herself in sleep; cramps in the legs, transient numbness in one arm, usually the left, and pain passing down the hand, and into one finger. Extreme mental and bodily depression, a peculiar feeling of dread, hangs over the mind whilst the attack is hovering about her, and the least excitement, as the slamming of a door, or the double knock of a postman, will throw her into a most distressing fit of nervous suffering. The disorder is attended oftentimes with a species of fit, not unlike that of epilepsy; and *anæsthesia* or paralysis, or both, of one arm and leg, may occur and remain for several days.

The period of time at which the attack comes on, or is aggravated, is also worthy of remark. If the individual does not rise in the morning with these cerebral disturbances, they will come on in the after part of the day, and they are especially aggravated if a sense of hunger ensues and it is not speedily gratified. There may be also flatulence, some obstipation of the bowels, and a capricious appetite. A spontaneous separation of crystals of pure lithic acid will oftentimes remove the distress for weeks, when it recurs with equal severity.

The individuals who appear most prone to these distressing symptoms are those who inherit a gouty diathesis, who live freely on animal food, and who

have been the subjects of great mental exertion. The stomach is the first organ which develops the attack, although the uterus, it should be observed, is the viscus originally in fault. There has been menorrhagia, or dysmenorrhœa, with more or less debilitating leucorrhœa.

The catamenia have been "dodging" the patient for some months, and, under an apprehension that this secretion was about to terminate altogether, the patient has kept silence upon the matter, and sought for no medical advice, until the constitution has become unstrung, the fluids vitiated, the stomach deranged, the mind harassed, and oftentimes not until then has she been compelled to seek for medical aid. The physiognomy in such instances is frequently very instructive; there is a sallow tint around the eye, a heavy expression of face, and a general sadness depicted in the countenance. The patient tells you that she is often seized with partial dimness, of sight, duplex vision, or that she is deprived of the power of distinguishing one half of another person's face, just as the late Mr. Abernethy was wont to describe to his class, when speaking of injuries of fracture to the *crista galli* of the ethmoid bone.

Many instances of the above malady have been erroneously classed under the titles "apoplexy," "cerebral congestion," "threatenings of cerebral effusion," &c., and the lancet, with local depletion, has been unsparingly employed. Such antiphlogistic measures have invariably added to the mischief, and have increased the patient's sufferings.

The explanation of these morbid changes and symptoms appears to the author to be this: that the catamenial secretion, from some constitutional cause, which is probably seated in the organs of assimilation, becomes altered in quality and in quantity;—the elements of this fluid are thrown back on the circulation, and morbid bile on the one hand, and a lithic acid diathesis on the other, are the ordinary result. There is no organ in the female economy that so readily partakes of disturbance from uterine irregularities as the liver; and the instances are not few where protracted menorrhagia has resisted astringents, quinine, and the ordinary treatment, whilst it has yielded to brisk and frequent purgation, with small intermediate doses of calomel, &c. In such cases, the uterus takes on the action of the liver, and so long as the latter viscus is allowed to remain in its torpid condition, so long also will the uterus continue to pour out an undue quantity, or an altered quality of dark venous fluid, and the patient becomes enfeebled, harassed, and distressed; hemorrhoids are not unfrequently induced also. But no sooner, oftentimes, do the remedies tell upon the hepatic branches of the portal system of the liver, than the intestinal portion of the same system becomes relieved from its congested state, and the uterine discharge is shortly subdued.

It is from such observations that my mind was originally led out into the study of these painful attacks of the nervous system; and I can confidently assert that a very large number of women, who would have been treated ten years ago with frequent bloodletting, and other antiphlogistic remedies, have been perfectly convalescent from a totally opposite method. The stomach, liver, and kidneys appear to be the principal organs which suffer from derangement, and, in order to restore to the former viscus its healthy tone and vigour, scrupulous attention must be paid to the diet. Mutton, roast and boiled, fish, poultry, fresh game, cocoa nuts boiled, or coffee, not too strong, and draught porter, are the most agreeable diet for such a stomach; but the benefit derived from taking six or twelve fresh oysters without any other food, or additions, as pepper, vinegar, &c., or even bread, upon an empty stomach, as for luncheon, for instance, has been most remarkable in some severe cases which I have witnessed. Their alkaliescent character has removed the morbid acidity of the stomach, whilst it has restored its tone and vigour, and the following draught has been ordered to be taken every morning on rising:—

R. Ammonię hydrochloratis grs. x;
 Extr. taraxaci ʒss;
 Dec. aloes comp.,
 Mist. gent. comp., aa ʒv;
 Sodę pot. tartratis ʒj;
 Tr. lavandulę comp. ℥ xx. Fiat haustus.

If this aperient should not prove of sufficient activity, it must be repeated in the middle of the day; but, on the other hand, if it is too active, the draught may be only taken every other or every third morning; yet it is of greater importance that the alimentary canal should be freely acted upon once or more daily, than that it should be allowed to continue in a torpid condition.

Another useful remedy is to clothe the loins with the emplastrum opii (Ph. Lond.), or else with a long strip of new flannel; and, in order to assist the liver in its healthy functions, a warm bath, and occasional friction over the skin with sand-soap or a horsehair glove, usually promote the healthy action of the abdominal viscera.

ART. 72.—*Case of Hydrometra in an Unimpregnated Uterus.*—Dr. Grandidier mentions the case of a female, æt. 21, unmarried. Her menstruation had never been regular, but she had complete suppression, after which her abdomen began to enlarge, and in a few weeks reached the size of that of the full term of gestation. As she was proved not to be pregnant by vaginal examination, she was treated for ascites, and after the performance of paracentesis, without the evacuation of fluid, hydrometra was suspected. She was now ordered ten grains of secale cornutum every two hours until uterine action ensued. After having taken 120 grains, this occurred, and a large quantity of clear water was expelled. She improved materially after this, and menstruation returned; but she had several returns of her disease at intervals, and was not entirely relieved until she underwent a course of mineral waters.

Neue Zeitschrift für Geburtskunde, Band 24, p. 261.

ART. 73.—*On the Treatment of Chlorosis.* By Dr. R. C. GOLDING.

(*Obstetric Record*, March 1, 1849.)

[The essential points in the treatment of chlorosis are arranged by the author under the following heads:—]

1. To improve the condition of the blood.
2. To improve the secretions generally.
3. To restore the deranged uterine functions.
4. To alleviate co-existing organic lesions, as far as alleviation is possible.
5. To alleviate the hysterical, dyspeptic, and cerebral symptoms, such frequent adjuncts to the chlorotic state.
6. To quiet the inordinate action of the heart, and to relieve pulmonary congestion, if existing as a concomitant.
7. To dissipate the dropsy, and to prevent its recurrence.

1. This is done by the strictly tonic plan; of remedies, none are so generally efficacious as the preparations of iron, whether administered in the ordinary pharmaceutical forms, as chalybeate waters, or as the fancy of special prescribers directs. The best of all, perhaps, and that most likely not to disagree, when its administration is prolonged (in many cases imperatively necessary), is the muriated tincture, with infusion of quassia; this formula may be alternated with quinine and dilute sulphuric acid.

2. Improvement of the secretions is as well necessary for the chlorotic state itself, as to render efficacious the tonic plan just mentioned, since, if there be much derangement of the secretions, especially if the *prima viæ*, chalybeates, and quinine are either of no use or may be positively injurious. For this purpose, alternative doses of mercury, small doses of iodide of potassium, rhubarb, and of aloetic preparations, are decidedly the best. During the administration of iron, a purgative every third or fourth day is necessary. If *tænia* exists, turpentine, the pomegranate-root bark, or the male fern-root may be employed for their expulsion.

3. To restore the uterine functions to their healthy standard, little of a special kind can be effected. With the return to health, and as the blood improves, the uterus becomes less deranged, and the secretions generally become improved. Aloes is thought to possess a specific action on the lower bowels, and by *sympathy of contiguity*, an action on the uterus also; however this may be, it may be safely exhibited, and is perhaps the best purgative to be given during

the administration of chalybeates, as it evacuates the lower bowels without producing watery stools, with the corresponding debility, local and general, consequent thereon; it possesses also a tonic action on the muscular tunic of the lower bowels. Rhubarb, as a carminative and cholagogue, is highly useful in chlorosis. Other remedies directed to the uterus may be used: the hip-bath, friction to the loins, groin, and inner part of the thighs; electricity is often peculiarly useful, and horse exercise; all of which, by inducing congestion of the pelvic viscera, and increasing the force of the general circulation through the generative organs, will often reinduce the menstrual secretion. Of course nothing of a special nature will be of avail, without the concurrent plan of treatment mentioned under the first two heads.

4. It was proposed, in the earlier portion of this dissertation, to include under the term chlorosis all those morbid conditions of the system, dependent in a great measure on a defect in the red globules of the blood, both as to quantity and due development. It was mentioned, also, how often the chlorotic state was a sequela of degenerated states of the kidneys, with albuminous urine, and how sometimes even such states of the kidneys might be induced by a pre-existing impoverishment of the blood. It must be evident, therefore, how much care such states of the kidneys demand, when existing as a complication of chlorosis; active diaphoresis, free purging, and the eschewing of diuretics, in this manner keeping the renal structure uncongested, are all the measures which experience has proved as of any avail. Other complications need not be detailed; their presence must be detected if possible, and their effects combated as occasion requires.

5. For the hysterical symptoms of chlorosis, antispasmodics and sedatives may be employed, although their efficacy here is not so well marked as in hysteria from other causes. Ether, valerian, assafoetida, opium, and hydrocyanic acid are those most in use. For the local neurotic affections so common under such circumstances, it is better to do nothing; if anything relieves, I believe the tartar-emetic ointment to be the best counter-irritant, as its effects are not so transient as most other forms of counter-irritation. Although both general and topical bloodletting are often resorted to with temporary relief, little ulterior good can result, and much harm *may* be done by its employment. However distressing these symptoms may be, they need not alarm either the patient or the friends, since their supervention, decline, or recurrence, and their intensity at all times, are as multifarious as all such neurotic affections are under other circumstances. The vapour of chloroform may be used to ward off the hysterical fit, if of such existence as to cause alarm.

6. When the heart's action is inordinate, and symptoms of angina exist, a belladonna plaster to the cardiac region is of use. When the bellows-murmur exists, its gradual diminution is a good index of the progressive improvement of the blood. To keep the lungs uncongested (as congestion is a frequent cause of tubercular deposition, a predisposition existing thereto), warmth to the surface, with as perfect freedom as circumstances will allow, from increased action of the heart, must be enjoined.

7. To ward off, or dissipate, when present, the dropsy of chlorosis, flannel next the skin, a light bandage to the oedematous parts, an elevated posture of the affected parts when at rest, and slight friction, are useful as auxiliaries; it is only eradicated and prevented from returning, after having once existed, with the improvement of the blood, on whose impoverishment it mainly depends. It must be borne in mind, that the imperfect nutrition of the skin over dropsical parts renders inflammation easily excited on comparatively slight irritation.

ART. 74.—*Sore Nipples treated by Solution of Gun-Cotton.*—The following observations are quoted from Prof. Simpson's paper on gun-cotton solution: It has been proposed to use the ethereal solution of gun-cotton for other purposes than the dressing and union of wounds—for example, as a substitute for the starch bandage in fractures; as an application and dressing to ulcers, &c. In abrasions and slight injuries of the skin about the fingers, it forms an excellent and adhesive dressing. There is one extremely painful and unmanageable form

of ulcer in which I applied it eight or ten days ago, at the Maternity Hospital, with perfect success. I allude to fissures at the base of the nipple. Most practitioners know well the agony that some mothers undergo in consequence of this apparently slight disease; the ulcer or fissure being renewed and torn open with each application of the child. In two such cases I united the edges of the fissures, and covered them over with the solution of gun-cotton, making the layer pretty strong. It acted successfully by maintaining the edges so firmly together, that they were not again reopened by the infant: the gun-cotton dressing was not, like other dressings, affected by the moisture of the child's mouth; and, as a dressing, and at the same time, by securing rest to the part, it allowed complete adhesion and cicatrization speedily to take place. I have applied it also repeatedly to ulcers of the cervix uteri and over various cutaneous eruptions. Its application relieves at once the smarting of slight burns.

Obstetric Record.

ART. 75.—*On Prolapsus Uteri.* By Professor HOHL.

(*Zeitschrift für Geburtskunde, and Brit. and For. Medico-Chirurg. Review, April 1849.*)

Professor Hohl believes that some very erroneous notions prevail as to the causes of this occurrence, and that some light may be thrown upon the subject by considering the changes of position which the uterus normally undergoes at different periods of life. In the mature fetus the uterus projects considerably beyond the pelvis; and it is only when it has acquired its completed shape and size at puberty, that it is found entirely within the cavity. At the commencement of the menstrual cycle, it retains its position, or even rises still higher in the pelvis; while at the termination of this, it again sinks, with the loss of blood, in stout young women. In women who seldom or never bear children, it sinks still deeper, as it does too after the menstrual functions have ceased. In pregnancy, the organ rises remarkably, and M. Hohl denies the correctness of the statement that it sinks lower in the pelvis after the second month, the apparent sinking being due to the turgescence of the organ, and especially of its cervix. After delivery, the uterus remains high up in the abdomen, and only gradually resumes its ordinary position. In old women, it is found deep in the pelvis.

The production of prolapsus is not dependent upon the condition of the vagina and the ligaments of the uterus. The vital power of the organ may be said to maintain it in position. When this is augmented, the uterus is raised; while, when it is diminished or lost, it descends. Other organs, and, indeed, the whole body, in like manner exhibit strength and power proportionate to their *turgor vitalis*. The increase of the vital activity of the uterus during its development and growth, as also during menstruation and in pregnancy, is attended with elevation of the organ, which sinks again when these conditions prevail no longer. So far from allowing that the prolapse results from defective supporting power of the vagina, we may rather regard the uterus as supporting the vagina, and prolapsus of the latter may occur without any prolapsus uteri.

Thus the author refers the production of prolapsus to a preceding coexisting condition of health, giving rise to a diminished vitality. This explains why we so seldom meet with the disease in young healthy women; while we know that whatever favours the relaxation of the genital system, and lowers the tone of the fibre, acts predisposingly—the germ of the evil being found in the puerperal condition, when the uterus, after having been high up in the abdomen, sinks down into the lesser pelvis.

Although prolapsus may be secondarily produced by other affections, as tumours of the belly, prolapsus vaginae, cystocele, &c., yet far more frequently a change in the direction, rather than in the position, of the organ then takes place; and even while the portion of the rectum in connection with its posterior wall may prolapse entirely, the uterus may retain its normal position.

There may be a diseased condition of the economy in general, or of the uterus in particular, upon which depends this extinction or diminution of its vital power; and accordingly as this is or is not curable, will depend whether the cure of a prolapsus is apparent or real: as mere reposition with mechanical support is not a cure. In some diseases which are attended with an increased

activity of the uterus, there is a rising of the organ in the pelvis, as puerperal fever, hydrometra, &c. Diseases of the ovaries do not produce any sinking of the organ; nor do tumours or indurations of its substance as long as they are in process of development, nor until they have interrupted its functions, or weighed it down by their great bulk. Polypi also seldom give rise to prolapsus.

Treatment.—Common as is the disease, a radical cure is seldom accomplished. The indications are to remedy the defective or disordered condition of the general vital powers, or of those of the uterus in particular. The author especially warns us against the continued use of injections, and the too early employment of pessaries. When the vital power of the sexual system or uterus is exhausted in consequence of age, over-stimulus, or incurable disease, mere palliative treatment should be employed.

ART. 76.—*Excerpta from Lectures, by Dr. TYLER SMITH.*

(*Lancet*, Oct. 21, 1849.)

I. *Encysted placenta.*—This is an uncouth name sometimes given to cases in which the sphincteric contraction of the os uteri comes on rapidly after parturition, before the placenta has been expelled. The placenta, in these cases, may be either attached to the uterus, or it may have been thrown off, and be lying close within the contracted os uteri. This complication is most common after acute labours, or where the pains have been excessive, up to the time of delivery, in prolonged labours. Excepting that it occurs after delivery, instead of in the early stage of parturition, it is comparable to that form of rigidity in which sphincteric contraction of the os uteri is predominant. Owing to the increased mobility which the os uteri acquires during the progress of labour, the post-partum contractions are more forcible than any active contraction which occurs before delivery; and the rigidity is never mechanical, because of the great dilatation which has occurred during the progress of the labour.

In treatment, it is of considerable importance to deal promptly with these cases. The longer the os uteri remains contracted, the more difficult will its dilatation, so as to admit of the extraction of the placenta, become. If the placenta can be felt close to the os uteri, gentle but firm traction of the cord, held as near as possible to its root in the placenta, should be used, so as to convert the placental mass into a dilator. If this plan should not be successful, the os uteri must be slowly dilated by the fingers, so as to admit the hand or fingers, according as the placenta may be required to be detached from the uterus, or merely withdrawn from the cavity. The utmost gentleness consistent with the necessary force should be employed; and, if necessary, any threatening of convulsion or laceration should be prepared for by bloodletting. If the patient's mind should be excitable, or the dilatation of the os uteri should be painful, an opiate is of great use; but it acts rather by soothing mental emotion and allaying pain, than by reducing the spasm of the os uteri. We can often beneficially assist the effects of traction of the umbilical cord in dilating the os uteri, by gentle pressure exerted externally upon the abdominal surface at each recurrence of the uterine contractions; sweeping the placenta as it were into the pelvis and towards the os uteri, by the hand, while steady traction of the cord is being kept up.

The foregoing remarks apply to cases in which the placenta is either wholly adherent to the uterus, or the uterus at large is so firmly contracted upon the separated placenta as to prevent internal uterine hemorrhage. Cases, however, occur, in which spasmodic closure of the os uteri is attended with separation of the retained placenta, and inertia of the body and fundus. In such cases, dangerous internal hemorrhage is inevitable, and the removal of the contraction of the os uteri becomes quite of secondary importance to the arrest of the hemorrhage. Our first object here must be to excite such an amount of uterine contraction as to stay the loss of blood. In all cases where the first steps taken for the dilatation of the os uteri, which of themselves tend to produce uterine contraction, are ineffectual, the uterine inertia should be treated most energetically *per se*, without any reference to the state of the os uteri.

II. *Hourglass contraction.*—In some cases of retained placenta the uterine spasm is not situated at the os uteri, but at the junction of the cervix uteri with the body of the organ, in the same situation, in fact, as the narrow portion of the organ in the unimpregnated state, and at which the greatest resistance is met with in the introduction of the uterine sound. In other cases the constriction is still higher up, involving the body of the uterus, being similar in its nature to those band-like spasmodic contractions, which are sometimes observed in the large intestine. In the lower animals, when the uterus in its anatomy resembles an intestine, there can be no difficulty in understanding this form of annular contraction.

In other cases, the hourglass contraction occurs after the separation of the placenta, when it may be the cause of internal hemorrhage, because of the inertia of that portion of the uterus which is above the stricture. After the expulsion of the foetus, the contractions of the uterus ought to be uniform in the entire organ, so that in hourglass contraction there is always a double departure from the physiological condition of the uterus; there are both spasm and inertia. The treatment of these cases must be conducted on the same principles as cases of sphincteric contraction of the os uteri; but we have an additional remedy, of considerable efficiency, in frictions applied to the abdomen over the uterus. True and complete hourglass contraction is a rare affection; but in very many cases of post-partum hemorrhage, portions of the uterus are spasmodically contracted, while others are so relaxed as to admit of the flow of blood from the mouths of the vessels on its internal surface. Occasionally it happens that one lateral half of the uterus will be contracted, while the other half is relaxed. In cases of hemorrhage, with hourglass contraction, there may be no escape of blood per vaginam, the effused fluid being confined in the upper chamber of the uterus by the stricture.

The causes of the hourglass contraction may be any of the causes of acute, irregular, or tardy labour; but it most generally occurs after rapid parturition, particularly the rapid transit of the foetus through the external parts. Coagula in the uterus, the retained placenta, or improper traction of the cord, and mental emotion, are all exciting causes of the accident.

III. *Inversion of the uterus.*—This accident has sometimes been attributed to inverted action of the uterus, but more generally to mechanical traction of the cord, and injudicious attempts at removing the retained or adherent placenta. When inversion is referred to traction of the umbilical cord, whether in consequence of a short funis, the sudden birth of the foetus while the mother is in the upright position, or the attempts of the obstetrician to remove the placenta, it is always believed to depend on the merely mechanical force which is in operation. It is considered that the fundus uteri is dragged down mechanically through the os uteri and vagina, the uterus being supposed to be passive during the occurrence of the inversion.

From the best consideration I have been able to give the facts of inversion, I am persuaded that it depends in *all* cases mainly upon an *active* condition of the uterus. Where it takes place without any mechanical interference, there can be no doubt of the preternatural and perverted activity of the uterus. But I am convinced that, even in cases where the placenta is attached to the centre of the fundus, and when the cord is drawn through the vagina with any amount of force likely to be exerted by an accoucheur, it is not a mere mechanical displacement which produces the accident, but the irritation of the fundus uteri, by traction, excites contraction of the fundus, thus producing that contraction and descent of the fundus uteri, which is the first stage of the accident. The common opinion has very naturally arisen from observing, in some cases, that the fundus uteri, when the placenta is firmly attached, follows the advancing cord, while traction is being used. According to my view, the depression of the fundus uteri, even in these cases, is not a simple yielding of the part, according to mechanical principles, but an active contraction, excited by the irritation of the fundus uteri by the traction of the placenta.

To pursue the steps by which complete inversion is produced. There is, first, cup-like depression of the fundus uteri; coincident with, or immediately

following upon, this depression, there is hourglass contraction of the body or lower portion of the uterus. The annular contraction of the body of the uterus grasps the introcedent fundus as it would a foreign body, and carries it downward, for expulsion through the os uteri, the os uteri being at this time either in a state of inertia, or actively dilated, the same as at the end of the second stage of labour. After the inverted uterus has passed through the dilated os uteri, this part of the organ becomes contracted, preventing reversion from taking place. Thus there is, first, depression of the fundus uteri, with annular or hourglass contraction of the body of the uterus, and dilatation of the os uteri. Next, there is intussusception of the fundus by the body of the uterus. Lastly, complete inversion occurs, with contraction of the os uteri upon the inverted organ. If we wished to describe this accident in three words, they would be: introcession—intussusception—inversion. The displacement may not be complete; it may in some cases stop at introcession; in others, at intussusception, and then return to the natural state; or it may remain intussuscepted. Inversion produces violent disturbance of the nervous system, and is frequently attended by alarming hemorrhage. But the symptoms of the intussuscepted uterus are still more violent. The strangulation of the fundus is almost as severe a shock to the system as actual rupture. In inversion, the hemorrhage is somewhat arrested by the os uteri acting as a tourniquet to the uterus. We may compare perfect inversion of the uterus to intussusception of the intestinal canal, only that the intussuscepted portion of intestine is not protruded externally. Probably, many cases of prolapsus ani should be called inversion of the rectum rather than prolapsus.

Inversion generally occurs quickly after the delivery of the foetus, between the expulsion of the child and the expulsion of the placenta. I have known it to take place after the death of the mother, and after rupture of the uterus had occurred. In the latter case, the foetus was passed into the peritoneal cavity, while the uterus became inverted, and protruded through the vagina. The predisposing causes of the accident are the causes of acute labour and excessive or irregular action of the uterus. It is of very great importance to understand clearly the real nature of inversion, as it is one of those accidents which are most confidently referred to malpractice. The less it is considered a mechanical displacement, the less disposition will there be to attribute it to the accoucheur; owing to the prevalence of the mechanical idea, obstetricians have sometimes been blamed most unjustly in cases of inversion.

The treatment consists of the mechanical reposition of the uterus. Immediate steps should be taken to reduce the inversion, because of the rapidly increasing contraction of the os uteri, which, by impeding the circulation, causes an increase in the size of the tumour. The size of the uterus should be reduced as far as possible by pressure, and by detaching the placenta in cases where it still adheres. By moderate but sustained force the uterus is then to be passed up through the vagina and os uteri. After the organ has been partly passed through the os uteri, the muscular action of the uterus itself assists in restoring it to the proper position. It is reinstated with a sudden jerk, causing a considerable report at the moment of its restoration. In cases where intussusception exists, the hand must be passed through the os uteri, so as to overcome the annular contraction, and to restore the intussuscepted portion to its proper position. Cases of intussusception and inversion require careful watching until the uterus has permanently contracted.

IV. *After-pains*.—A certain amount of periodic uterine contraction after labour, attended with some degree of pain, is strictly physiological, the object to be effected being the safe and permanent contraction of the uterus. When these pains are excessive or long-continued, they become pathological, and are proper objects of treatment. Some accoucheurs, believing them to be always beneficial in their results, are very jealous of any attempts to moderate their force or duration; but there can be no doubt that, if unchecked, they will, in some cases, pass on to metritis and other morbid conditions of the uterus, or they may excite an attack of puerperal convulsions.

Whilst a physiological amount of after-contraction of the uterus should never

be interfered with, excessive or pathological action should always be moderated, if possible. It is true that we sometimes observe morbid after-pains, by expelling coagula from the uterus, effect their own cure, in removing the source of irritation, just as we see vomiting or purging relieve themselves by the rejection of morbid matters from the stomach and intestinal canal. But we often see vomiting or diarrhoea, when once induced, continue long after the irritating matters have been expelled: and so it is with the uterus. The one is as legitimate and imperative a subject for treatment as are the other two.

At each after-pain the entire uterus is contracted into a hard and painful ball, or it is irregularly contracted so as to feel firmer in some places than in others. It often happens that each after-pain is attended by a discharge of coagula, or of the lochial fluid, though sometimes there is an absence of all discharge per vaginam. In ordinary cases, after-pains increase in severity with every succeeding labour, and as a general rule, they are more troublesome the shorter the duration of the individual labour. Cases, however, occur—those in which there has been dysmenorrhœa, with great irritability at the ovarian periods of pregnancy—in which after-pains are very distressing in primiparae. As to the seat of the pain, it is partly uterine and partly lumbar, the latter probably being dependent upon the ovaria. Sometimes the contractions are not confined to the uterus, but the abdominal muscles become affected, cramps or spasmodic twitchings of the limbs occur, and the pain which begins in uterine contraction alone, may, by an extension of reflex action, terminate in convulsion.

The main cause of excessive after-pains consists in the excitable condition in which the uterine and ovarian nerves, both as regards reflex action and sensation, are left after parturition. In this state of excitability, the uterus is roused to contractions by the ovarian stimulus, by the state of the surface from which the placenta has separated, by coagula within the uterus, and by various extra-uterine stimuli. Thus, when the after-pains are excessive, the physiological reflex relations between the breasts and the stomach, and the uterus, excite the most painful action of the latter. The patient can neither drink nor apply the child to the breast without renewing the agonies of labour. Any emotional disturbance aggravates the suffering; the acts of coughing, sneezing, defecation, micturition, or even voluntary movements of the patient in changing her position, &c., produce violent pains, chiefly because of the compression of the uterus by the abdominal muscles. But the uterus is sometimes in such a tetanic state, that the slightest movement of any part of the body excites it to violent spasmodic action.

The treatment of after-pains is very simple. It consists in the removal of coagula from the vagina and os uteri, the avoidance of all the extra-uterine causes of uterine contraction, and the application and administration of opiates. A great objection is made to opiates by some persons, as I have already said. I do not, however, believe that a moderate or even a full dose of opium really weakens the uterine contractions; on the contrary, I believe it allays the sensibility of the uterus, and at the same time increases rather than diminishes its contractility. Gentle friction with the linimentum opii over the abdomen is often very useful; but I have found still greater benefit from the application of this liniment to the mammae. By a reflex action, it allays the excessive sensibility of the uterus, when thus applied. Probably, when applied to the abdominal surface, its sedative influence is also of a reflex kind. The sensorial connection between the nerves of the abdominal surface and the abdominal and pelvic organs is very striking in some diseases. For instance, in peritonitis, there is actual and intense tenderness of the skin of the abdomen, in addition to the tenderness of the subjacent peritoneum. This is a slight digression; but I mention it to show the reflex sensory connection between the surface and internal organs, which, in the case of after-pains, may be made of considerable therapeutic service.

In excessive after-pains, without hemorrhage, without the presence of coagula, and in the absence of other signs and consequences of inertia, the infant should never be applied to the breast for some hours after delivery; not, in fact, until the uterus has become calmed from its state of morbid excitability. Early and constant stimulation of the breasts by the child is a common cause of irritable

uterus for many days after delivery. This agency, so salutary in all cases of impending inertia, is often made, unnecessarily, a cause of miserable suffering, at a time when the patient is little able to endure it, and without any counterbalancing good, if the uterus has contracted healthily. I repeat, we want no more than safe contraction; every after-pain beyond this point is both unnecessary and mischievous.

ART. 77.—*Observations on some Forms of Uterine Hemorrhage, in connection with the Delivery of the Placenta.* By ROBERT CANE, M.D.

(*Dublin Quarterly Medical Journal*, Nov. 1848.)

[The author's remarks in the following paper are confined to the hemorrhage which occurs after delivery of the fœtus, and which is strictly connected with the state of the placenta and its delivery, or else with some condition peculiar to the patient's constitution. He considers this form of hemorrhage usually to depend on one or other of the following causes:—]

1. Too rapid delivery of the fœtus.
2. Too slow delivery of the fœtus.
3. Premature rupture of the membranes.
4. Partial separation of the placenta.
5. Portion of the placenta left behind.
6. Retention of an unattached placenta in a malposition.
7. Atony of the uterus.
8. Hemorrhagic tendency in the individual.
9. Over-distention of the urinary bladder.
10. Laceration of the perineum.

[The author considers each of these causes separately, dwelling, as he proceeds, on some points not sufficiently noticed in works on midwifery, especially in reference to the ingesta, and state of the bladder, as tending to cause and prolong the hemorrhage. He also notices certain signs as indicative of approaching hemorrhage, viz. the state of the pulse, the state of the uterus, and the sensations of the patient herself.]

1. *Too rapid delivery.*—When the fœtus is expelled rapidly there is often a large escape of blood, both prior and subsequent to the removal of the placenta. It appears, the author remarks, as if the uterus had not been sufficiently exercised, by previous attempts at contraction, to give it that tone and power which will enable it to contract perfectly, and close the mouths of the blood-vessels. The bleeding, he notices, may be internal or external.

2. *Too slow delivery.*—Presents nearly the same features as to the mode of bleeding, and differs only in the nature of the cause, which appears to depend on actual debility of the uterus. It, therefore, happens that this variety of hemorrhage is apt to be more unmanageable than the other. It is often met with among those who have married too young, and who have had a numerous family.

3. *Premature rupture of the membranes.*—This the author has not seen noticed as a cause of hemorrhage; but he is convinced of its agency. This is understood by an examination of the results of rupture of the membranes in the placenta. While the membranes are unbroken, the author considers that they reduplicate the power of the uterus, by dragging down the edges of the placenta. As soon as they are ruptured, this auxiliary power is lost. The author states his conviction that hemorrhage is more frequent when the membranes are early ruptured, and also that in such cases he has oftener met with adherent placenta.

[The general experience of accoucheurs is undoubtedly against the practice of early rupture of the membranes; but more, we believe, from the knowledge that the bag of liquor amnii is the wedge adapted by nature for the safe and gradual dilatation of the os uteri, than from any conception of its tendency to induce hemorrhage. It is easy to conceive, however, that the delivery of the placenta will not be so "clean" and easy as when the membranes have been unruptured for a considerable time.]

4. *Partially detached placenta.*—This may arise as a consequence of the preceding, as a result of imperfect uterine action, or from injudicious efforts to separate the placenta by dragging the cord. It is generally serious, and requires to be promptly dealt with.

5. *Portion of the placenta retained.*—This is generally the result of improper force in removing the placenta.

6. *Retained, detached, but misplaced placenta.*—In a natural condition, the detached placenta is so placed that the gradual and equable compression of the contracting uterus, while it condenses its tissues, prevents the escape of blood; but if the placenta be misplaced, doubled on itself, or turned with its amniotic surface towards the uterus, and its maternal surface looking downwards or to one side, it interferes with the perfect adaptation alluded to, and blood escapes.

7. *Atony of the uterus.*—This class includes atony resulting from peculiarity of constitution or extreme vital prostration, or from disease.

8. *Hemorrhagic tendency.*—Such cases are often met with in strumous subjects.

9. *Over-distended urinary bladder.*—The author considers that an over-distended urinary bladder may favour hemorrhage, by the relaxing effect of the warm urine superimposed, acting much in the same manner as a hot-water bottle applied to the pubes.

10. *Lacerated perineum.*—This is mentioned only to guard the practitioner against mistaking hemorrhage so arising from uterine bleeding.

[The author next proceeds to the treatment of the above forms of hemorrhage, premising it with remarks upon the proper mode of applying pressure over the uterus, and other matters incidental to the lying-in room. He is a strong advocate for cold vaginal injections; and objects to the use of the plug, for the reason usually alleged, that it may favour internal bleeding. He next gives rules for the removal of retained placenta, or a portion left behind. Ergot is approved of, given as recommended by Dr. Beatty, that is, just as delivery is taking place. The placing the child to the breast is approved of, though, strange to say, the author doubts its power to excite uterine contraction by reflex action. The paper concludes with the treatment of the consequences of hemorrhage; but in these remarks we find nothing worthy of repetition, being such as every well-informed practitioner would adopt.]

ART. 78.—*Puerperal Convulsions.* By Dr. MURPHY.

(*Medical Gazette*, Jan. 1849.)

Dr. Murphy, in his Lectures on Midwifery, lays down the following propositions on this subject:—

1st. Puerperal convulsions should not be confounded with epilepsy, nor with apoplexy. They agree with the epileptic attack in their physiological, but not in their pathological characters. Apoplexy is an effect of the paroxysms, which may or may not follow from them.

2d. The predisposing causes of puerperal convulsions are either an excess of blood (hyperemia), a deficiency of blood (anemia), or impure blood.

3d. The proximate causes of convulsions are chiefly eccentric causes, being the morbid irritation of the afferent nerves supplying the different vital organs.

4th. *Morbid irritation of the uterus* is the most common proximate cause of puerperal convulsions, the result either of hyperemia or anemia. Hence the division into sthenic or hyperemic convulsions, and asthenic or anemic convulsions. Under the latter head we include, not merely loss of blood, but poverty of blood, and impure blood—because the effect seems to be similar, only differing in degree.

5th. *Morbid irritation of other organs* also causes puerperal convulsions, because, during pregnancy, and at the time of labour, the nervous system is more excitable than at any other time: and hence any organ may easily be rendered morbidly irritable. Puerperal convulsions so caused are much more fatal than the former, because the nervous centre is exposed to a twofold source of irritation—the organ primarily affected, and the uterus, that is secondarily excited.

6th. In the whole of these phenomena we must perceive a beautiful illustration of the reflex nervous function—the peripheral nerves, that supply the affected organ, rapidly communicating their irritation to the spinal system, which, as an excito-motor centre, radiates the irritation over the whole of the voluntary muscles and the muscles of respiration. Even the involuntary muscles, as the uterus and heart, do not escape.

ART. 79.—*Use of Ice to promote Uterine Contraction.*—Drs. Mackale, Skinner, &c., speak highly of the power of ice to reproduce labour-pains when suspended. It is pounded and swallowed freely. Dr. Mackale says: “During two years I have had frequent opportunities of observing its effects, and in no instance have I been disappointed in its action. In cases where labour-pains had been suspended for twelve or twenty-four hours, they have been renewed promptly and efficiently. In cases of inevitable abortion, when the uterine contractions are feeble and inefficient, and hemorrhage considerable, I regard it as invaluable.”
Transactions of the American Medical Association.

ART. 80.—*Treatment of Rigidity of the Os Uteri during Labour.*—Dr. Scanzoni, who has carefully examined the conditions of the os and cervix, in the latter months of pregnancy, believes that the constriction, which sometimes declares itself in the first stage of labour, is due to rigidity of the upper orifice of the uterine neck, and not the lower, which is generally sufficiently dilatable. Instead of the treatment usually recommended, viz. bleeding, antimony, belladonna, frictions, &c., he advises a continuous douche of warm water upon the os and cervix, directed by means of an appropriate instrument.

L'Union Médicale, and Rev. Méd.-Chir., Dec. 1848.

SECT. II.—DISEASES OF CHILDREN.

ART. 81.—*On the Continued Fevers of Childhood.* By Dr. WEST.

(*Medical Gazette*, Aug. 11, 1848.)

In discussing the question of the similarity of infantile fever to the continued fevers of adult age, the author observes as follows:—]

If we look closely at the characters of this disease, and compare them, as has been done by MM. Rilliet and Barthez, with those presented by the simple continued fever of the adult, we shall, I think, see so close a correspondence between the two affections as to remove all doubt with reference to their identity. Both diseases occur independently of any unvarying cause, often independently of any cause which we are able to detect; and both, though generally affecting isolated individuals, have also their seasons of epidemic prevalence. Though varying in severity, so that in some cases confinement to bed for a few days is scarcely necessary, while in other cases the patient scarcely escapes with his life, yet medicine has not been able to cut short the course even of their mildest forms. And, lastly, though the local affections associated with both vary much in different cases, yet in every instance we meet with that assemblage of symptoms which make up our idea of fever. Or if, from the examination of the symptoms during life, we pass to the inquiry into the traces left by the disease on the bodies of those to whom it proves fatal, we shall find still further evidence of the close relation that subsists between the fever of the child and that of the adult. Enlargement, tumefaction, and ulceration of Peyer's glands constitute one of the most frequent morbid appearances in both diseases, and in both, the changes that these glands are found to have undergone are more advanced and more extensive in proportion to their nearness to the ilio-cæcal valve. In both, too, the mesenteric glands are enlarged, swollen, of a more or less deep red colour, and manifestly increased in vascularity; while the softened state of the spleen, the gorged condition of the lungs, and the congestion of the membranes of the brain, are appearances common to both diseases. There is, however, no more relation between the severity of the intestinal lesion and the intensity of the

symptoms in the fever of the child than in that of the adult, and there is no ground for regarding the disease as the mere effect of the constitution sympathizing with a certain local mischief in the former case, which may not be equally alleged with reference to the latter. The symptoms in both "are the expression of the influence of the disease on the whole economy of the disorder which it occasions in the principal functions of the body, and are an essential part of the disease itself, rather than the secondary effects of certain lesions of the bowels.

[The treatment of the different stages of infantile fever meets with the subjoined judicious comments.]

The impaired appetite often renders any other directions about the diet unnecessary, than a caution to the parents or nurse not to coax or tempt the child to take food which it is, and will be probably for some days entirely unable to digest. The heat of skin and the craving thirst are the two most urgent symptoms in the early stages of the affection. The first of these is generally relieved by the tepid bath at 90° or 92° every morning, and by sponging the surface of the body several times a day with lukewarm water. The desire for cold drinks is often very urgent, and no beverage is half so grateful as cold water to the child. Of this it would, if permitted, take abundant draughts, but it should be explained to the attendants that the thirst is not more effectually relieved by them than by small quantities of fluid, while pain in the abdomen is very likely to be caused by the over-distension of the stomach. The cup given to the child should, therefore, only contain a dessert- or tablespoonful of water in it, for it irritates the little patient to remove the vessel from its lips unemptied. In the milder forms of the disease, and during the first week, medicine is little needed; but a simple saline may be given, such as the citrate of potass, in a mixture to which small doses of *vinum ipecacuanhæ* may be added, if, as sometimes happens, the cough be troublesome. If the bowels act with due frequency, and the appearance of the evacuations be not extremely unhealthy, it is well to abstain from the employment of any remedy which might act upon them, for fear of occasioning diarrhœa, which is so apt to supervene in the course of this affection. For the same reason, if an aperient be indicated, drastic purgatives are not to be given, but a moderate dose of castor oil should be administered. Now and then, however, cases are met with, in which the bowels remain confined during a great part of the affection, and in which such purgatives as senna are not only borne, but absolutely necessary. They, however, are purely exceptional cases; and it will generally suffice to give a small dose of the mercury and chalk, night and morning, and during the day-time a small quantity of the tartrate of soda or the sulphate of magnesia, dissolved in some simple saline mixture, every six or eight hours.

The unhealthy state of the evacuations that exist in a large number of cases is generally associated with a disposition to diarrhœa, which becomes a more prominent symptom in the second than it was in the first week of the disorder. Equal parts of the *hydrargyrum cum creta* and Dover's powder are the best means of relieving both these morbid conditions; the remedy being given either once or twice a day, or more frequently, according to the urgency of the symptoms. The amount of abdominal pain and tenderness must be ascertained every day; and a few leeches must be applied to either iliac region, if the tenderness seem considerable, or if the child appear to suffer much from pain in the abdomen, or if the diarrhœa be severe. If depletion be needed, the application of but a small number of leeches will generally meet the requirements of the case, while copious bleeding is neither useful nor well borne. Even in children of ten years old, I never apply above four or six leeches, and it is very seldom that any occasion arises for repetition of the bleeding. The application of poultices to the abdomen, either of linseed-meal or scalded bran, and their frequent repetition, is a very valuable means of relieving the griping pain which often distresses children, and in most cases it is desirable to make trial of them before having recourse to depletion.

There is but one other class of symptoms likely to occur during the first week of the fever, to the management of which I have not yet referred; namely, those signs of cerebral disturbance which are sometimes so serious as to call for

treatment. The early occurrence of delirium, though it generally implies that the disease will assume a rather serious character, yet does not of itself indicate the necessity for taking blood from the head; but if the child be quiet and generally rational during the daytime, though dull, yet not in a state of stupor, while the delirium at night is of a tranquil kind, it will generally suffice to apply cold to the head, and to keep the apartment cool, and absolutely quiet. On the other hand, if there be great restlessness and noisy delirium early in the disease, with heat of head or flushing of the face, local depletion is called for; nor is it less useful in those cases which set in with symptoms that bear a close resemblance to those of hydrocephalus, in which vomiting occurs frequently, and the sense of nausea is abiding, while the child either is constantly making a low moan, as if in pain, or is extremely restless, and makes loud complaints of headache.

In mild cases of the disease, that expectant treatment usually appropriate during its early stages may be continued throughout its course; great caution being exercised as the child begins to improve, to prevent its committing any error in diet. When severe, however, the second week often brings with it a train of symptoms that require many modifications in the plan of treatment. The vital powers need to be supported, and the nervous system requires to be tranquillized; and this is to be attempted by means similar to those which we should employ in the management of fever in the adult. The more diluents which were given during the previous course of the fever must now be exchanged for beef- or veal-tea or chicken-broth, unless the existence of severe diarrhoea contraindicates their administration. In that case, which, however, does not very often occur, we must substitute arrowroot, milk, and isinglass for animal broths. In a large proportion of cases, nutritious food is all that will be required, but wine is sometimes as essential as in the fevers of the adult; and the indications for giving it are much the same in patients of all ages. Even though wine be not necessary, I generally give some form of stimulant during the second and third weeks of the affection. The prescription which I usually follow is one much praised under such circumstances by Dr. Stieglitz, of St. Petersburg. For a child of five years old, it is four minims of dilute hydrochloric acid, eight of the compound spirit of sulphuric ether, and three drachms of camphor mixture, every six hours. It seldom disorders the bowels, if they be not much disturbed at the time of commencing its administration; while a small dose of Dover's powder, as a grain or a grain and a half at bedtime, is doubly useful, both in checking tendency to diarrhoea and in procuring sleep for the child, who, without it, would probably be watchful and delirious all night long. So long as any severe abdominal symptoms are present, I abstain from the use of the acid mixture; but give the mercury and chalk, with Dover's powder, every four or six hours, to which I occasionally add an opiate enema at bedtime; and support the strength by food and wine as may be necessary.

The only complication that is apt to be troublesome is the bronchitis. Usually, however, the cough to which this gives rise is rather an annoying than a dangerous symptom; and it is in general more harassing at the commencement of the affection, and again when convalescence is beginning, than during the time when the graver symptoms are present. A little ipecacuanha wine, nitrous ether, and pectoric will usually relieve it, to which it may occasionally be expedient to add the application of a mustard poultice to the chest.

ART. 82.—*On Typhoid Fever in Childhood.* By Dr. WILSHIRE.

(*Medical Times*, June 10, 1848.)

[The following extract is but a small portion of a lecture on the subject of fever in general as it appears in infancy, by Dr. Wilshire; the entire subject is handled in a masterly manner, and deserves attentive perusal. After remarking that typhoid fever is not common below the age of ten years, but is more frequent after that age and up to fourteen years, the author thus proceeds:—]

I shall suppose you called to see a patient about thirteen years old; you find him in bed; you are told by the mother that for some days he has been complaining of great lassitude, pain of the head, loss of appetite, and increased

thirst. On the morning before, his mother attempting to get him up, he refused to rise; that he lay in bed complaining greatly of headache, often coughing, and asking only for drink. You now find him on his side, half dozing, not inclined to move, or attend much to your inquiries. He especially avoids the light on raising himself up in bed, or if he moves and looks up at you he quickly falls back again, buries his head in the pillow, and lies as before, careless of all around. You observe that the tongue is coated with a thick, yellowish-brown, mucoid fur, clammy rather, but you will think inclined soon to become dry. The skin is hot; the lips dry, rather red, and there is some cough. He complains of his head, and of his belly, when you press upon it. The bowels are described to be rather loose, and there is tendency to vomit. If you inquire as to the existence of remissions or paroxysmal exacerbations, the mother may, perhaps, tell you he is rather worse towards night, but she will generally reply, "He lays like this all day, sir."

The next day, or the day after, you will find most of these symptoms in a more exaggerated form. The fur upon the tongue is less mucoid; the tongue is getting darker and drier; the lips less moist, and more cracked. The bowels are very frequently acted upon; there is vomiting; the cough is much more troublesome, and the patient is said to have moaned much, or wandered, or talked nonsense in the night. There is great prostration of strength; he lies in bed regardless of everything; the legs are placed straight down now, instead of the knees being drawn upwards towards the chin.

Thus he may remain for a day or so longer. In this interval, however, important complications may sometimes be seen; epistaxis may come on, hemoptysis, even pneumonia, greatly increased diarrhoea, or enteritic inflammation; or no such occurrences may happen, but gradually the other symptoms will decline, the disorder diminish in intensity, the child by degrees getting well.

But frequently another stage is passed through. You find the headache disappear, but the patient all at once seems to have become remarkably emaciated, and lays more heavy, and notices less than before, and now nearly flat upon his back. There is some amount of stupor; you must push him or pull him to arouse him, when he just opens his eyes, and perhaps, if urged to do so, puts out his tongue, and then falls to sleep again. You find the tongue hard, dry, and very dark towards its base; the lips are thin, dry, and scabbed; the teeth have dark sordes at their gingival extremities; the skin is dry and harsh; the patient is deaf; and the dejections frequent, watery, and perhaps passed, as is the urine, without consciousness.

The patient may thus continue for a day or two, now and then showing a slight improvement; or, on the other hand, pneumonia of a very insidious form may carry him off, or he may pass into a state of coma, sores forming upon the sacrum or hips, and die in a short time.

But this, fortunately, is not, so far as my experience goes, usually the case; on the contrary, before these latter and like untoward events make their appearance, the disposition for the fever to abate is manifested by a gradual but certain amendment of the signs. The stupor disappears, the countenance assumes more expression, the patient becomes observing, and the sense of audition returns. The bowels are less relaxed, the tongue moister, the skin becomes less dry and harsh, and the patient is able to turn over whilst in bed. Soon is observed very great amelioration of the cough, and the tongue now presents a far more natural appearance; the patient speaks, will ask for some ale, perhaps, and his face has its natural aspect. Return now to health is often rapid in the extreme; muscular strength is renewed remarkably; the appetite becomes great, and, in fine, the patient recovers so quickly that his rapid convalescence forms not by any means the least interesting feature in the case.

In other instances, although recovery ensues, the progress towards it is by no means so quick or free from unpleasant contingencies as I have just represented. The change from the severe symptoms of the third stage is but very gradual and slow indeed, and the patient seems to *hover* between the two events, which gives rise to much apprehension. At this time, however, just when we think the fever has really "turned," and favourably, the patient, in the extreme

of emaciation, has a series of abscesses break out in different parts of the body, and, in a few days, is thrown back with suppurations and discharging sores, accompanied with much irritative and symptomatic fever. I have been often vexed with this disagreeable interlude to a case of typhoid fever. Sometimes a large abscess will occur under the scalp, or the glands in the groin, or neck, or armpit will inflame and suppurate, or there will be collections of pus in other parts of the body. I remember a little girl, of between thirteen and fourteen years of age, whose recovery was thus retarded for four or five months; and often, during this period, I thought she would not have survived under the discharge and the irritative fever. She got better, however, but arose from her bed a mere wreck. Sometimes, in the course of rather a mild form of the fever, collections of matter will form, and the patient will soon get well. But here they are but few and slight, and they seem to be *critical*. After these abscesses are entirely recovered from, the patient may be left with otorrhœa, and after that with permanent deafness.

Before concluding what I have to say on the symptomatology of the fever we are discussing, there are one or two points I must just touch upon. The first is with respect to the *eruption*, which is described by some of the French pathologists as being "almost constant in the child, especially frequent on the back or on the limbs; whilst, if searched for on the chest or on the abdomen, we may often fail to recognize its existence." (Fabre.) This does not answer to my experience, as I generally fail to observe it anywhere. Now and then my attention is directed to small punctations, apparently an eruption, on the arms; but whether these answer to the "*taches roses lenticulaires*" of the French pathologists I have considerable misgivings; but you must recollect I have had no experience whatever amongst children in regard to the maculated fever of Ireland, Scotland, and occasionally of this country. I refer simply to the common typhoid fever, as I see it frequently amongst children here.

The next symptom I may notice, and which I should say, from my own experience, is *frequently* present, is what the French call *gargouillement*—a sort of gurgling sound, heard when the ear is applied over the right iliac fossa. This sound is caused by the movements of gases and fluid within the intestinal canal. Now, there are many who place great stress upon this sign, and consider it as diagnostic of typhoid fever. They maintain that it is unfrequent in disorders of the intestinal canal, unless the accompanying fever is of a typhoid character. Rilliet says: "One of the most unfrequent symptoms of enterocolitis is gargouillement—a phenomenon so common in typhoid fever that, in the child at least, it will put us on the road to correct diagnosis, when we are in doubts as to the latter." Barthez and Rilliet have observed it in one-half of the cases of fever which have come before them. I doubt not this, but I much doubt its value as a differential or essential characteristic of the malady, and believe that it may be much oftener heard in other affections than the continental observers admit.

Other observers have considered the catarrh and the bronchitis—undoubtedly very frequent complications of the fever—as almost necessary to its existence. Fabre asserts that a respiratory affection is wanting only in the most simple cases; M. Taupin, that, out of 121 cases, it was absent but four times; and M. Barrier, that in three cases only out of twenty-four did he fail to observe it.

More or less importance has been attached to *parotitis* by different observers, but the more eminent of the continental authorities agree in believing that, whilst it is uncommon in adults, it is still more so in children. In more than 100 cases observed by Rilliet and Barthez, it was seen but once—in a boy nine years old, and who died on the twentieth day. M. Guersant remarks: "It has been asserted erroneously, in my opinion, that *parotitis*, when it occurs, is the *cause* of the gravity of the disease, it being far more rational to conclude that it is the *result* of the gravity of the affection." I have not seen *parotitis*, as an intercurrent affection of the typhoid fever I am now speaking of.

With respect to the usual duration of the malady, I may remark that it varies much according to the severity of the affection, and also as to whether we

include in it any portion of the earlier stages of recovery. Of course, recovery from a disease cannot be the disease; but yet it is very difficult at first to mark the slight and gradual variations from the one into the other. In a mild case, the fever may be said to last about fifteen days; in a bad one with complications, thirty. After the former, too, restitution to health and vigour may be most rapid, whilst in the latter, sometimes two or three months are necessary before such events can take place. With respect to liability of the sexes, I may remark that—

M. Taupin states that out of 121 cases, 86 were boys and 35 girls; Rilliet and Barthez, out of 111 cases, note 80 boys and 31 girls. M. Taupin attributes the difference, to the girls of the lower classes being better taken care of than the boys are by their parents. The consequence is that their diseases are less severe, and they are not so often brought to hospitals as the boys are. But this is scarcely sufficient to account for the great difference we find to exist, at any rate in the proportion of the sexes attacked by the *fièvre typhoïde* of the continent. In the Fifth Report of the Registrar-General, I find that 821 males are said to have died of *typhus*, under fifteen years of age, in twenty-four town districts; and that 853 females did so. Here the females have the higher ratio; but, inasmuch as no less than 39 females and 46 males are said to have died in the first year of life from *typhus*, no dependence, I fear, can be placed as to the real nature of the malady of which many of the so-called typhus cases actually were constituted. Even the French writers, who admit of the occurrence of their *fièvre typhoïde* at an early age, do so in such reserved language as the following: "All periods of childhood are not equally liable to typhoid fever: it is extremely rare in the first year; still rare, but gradually becoming less so, up to the eighth or ninth year; but frequent enough above that age." (Fabre, *Biblioth. Méd. Prac.*) "Do there exist in the history of our science, cases of typhoid occurring in children below two years of age?" (Rilliet and Barthez.) Rilliet afterwards notes a satisfactory case of his own, in a child of seven months old; and a few others are recorded by M. Charcelay, as observed "*chez des nouveaux-nés.*"

Of course, we cannot come to anything truly satisfactory upon many of these points, because of the confusion in which the pathology of *typhus* and *typhoid* fever as yet remain. I cannot better illustrate this fact than by quoting to you the reply of the Dublin writer, I before mentioned, to M. Rouchoux's arguments: "The reason why typhoid fever is said never to occur in children is, that the French pathologist is apt to deny the existence of the disease, unless he has an opportunity of seeing the diseased bowels, which—as children, comparatively speaking, seldom die of fever—he has but little opportunity of doing." The objection is completely reversed by the fact, that cases are on record in which the rose-coloured spots of fever were visible, even at birth. On the other hand, the true typhus of Ireland is equally rare among children with the typhoid fever of France, and equally uncommon among aged persons, since, of 11,209 cases admitted into the Belfast Hospital, 301 only were under six years, and 171 only above sixty. (*Half-Yearly Abstract*, Vol. II. p. 157.)

ART. 83.—On *Eclampsia Nutans*, or "*Salaam*" Convulsion of Infancy.

By WILLIAM NEWNHAM, Esq.

(*British Record of Obstetric Medicine*, March 1849.)

[The disease which the author describes in the following pages is but little known; few, if any, cases being recorded besides the four which are appended to this essay. It appears to be one of fearful importance, also, two of the four cases having ended in idiocy. The pathognomonic symptom is "a peculiar bowing forward of the head," which is repeated with greater or less rapidity, sometimes as many as a hundred times. Our space will not allow of the detail of all the cases brought forward by the author; but the characteristics of the affection are sufficiently seen in the following:—]

A child, æt. 16 months, was observed, on January 1st, 1839, to have a peculiar heavy look about the eyes, which was supposed to depend on the stomach, and was treated by alteratives. The peculiar nodding of the head occurred

thrice on this day; but rapidly increased in number and severity. The forcible bowing of the body on one occasion took place as many as one hundred and forty times in the minute, and were apparently accompanied by considerable suffering. They were followed by exhaustion and disposition to sleep.

About the middle of March the right arm and leg were observed to lose power, and ultimately became paralytic. By the middle of April she had ceased to be able to crawl, and her countenance indicated cerebral distress. This increased till the end of May, at which time she often awoke with violent screaming and spasm of the whole body, the head being first thrown back, and then bowed violently to the feet, which were also drawn upwards. The child then fell into uneasy slumbers. There was much sluggishness of the bowels. On the 27th of May she fell into a comatose sleep, which lasted some hours. This was repeated on the 29th. From this date improvement commenced, and the attacks were suspended till the 21st of June. After this there were slight bowings, and on the 9th July they increased in severity for three weeks, when they ceased.

During this whole time she made no intellectual progress, and when three years old was as backward as a child of two. At a more advanced age the same was observed. She appeared a retiring girl, of a capacity below her age.

The treatment was at first tonic. Zinc was given, under the impression the disease was allied to chorea. Subsequently, the bichloride of mercury was given in 1-16 gr. doses, and aperients. Latterly, the mercury was omitted, and, at the time of her ultimate improvement, no medicine was given to which it could be attributed.

In his commentary on the above and three other cases, Mr. Newnham remarks, that the disease appears to be spinal in its origin, though cerebral symptoms are superadded subsequently. The effect on the mind is marked and invariable, though not to the same extent in all cases. Of the four cases recorded, one only recovered, and that not perfectly. In addition to the induction of mental imbecility, paralysis has been a consequence, either in the form of paraplegia or hemiplegia. It is to be remarked, that in each case the severe attacks of "bowing" have been preceded by sleep, and the severity seemed in proportion to the depth and duration of the sleep.

The author notices an evident alliance of this disease with epilepsy; tetanoid symptoms also occur during its progress. Speaking of the causes, he looks upon irritation of the pneumogastric nerve as a possible, but not the essential cause. In the same category of unproven causes he would place irritation of the spinal nerves by the presence of worms.

The essential nature of the disease is considered by Mr. Newnham to be inflammatory action of a low or strumous character, commencing in the membranes of the medulla oblongata, and extending to the membranes covering the base of the brain. This inflammation he conceives to be followed by exudations of lymph and serum, the pressure of which produces paralysis. The nutrition of the brain is also interrupted.

The author's views of the treatment are based on this view of the pathology of the disease. He would avoid depletion, subduing high action, if necessary, by antimony. He would then give alterative doses of hydr. c. creta, and the iodide of potass with excess of potass or sarsaparilla: if the child were anæmic, he would add some form of iron. He approves of some form of counter-irritation, and prefers the seton. Among auxiliary measures, he refers to lancing the gums, the avoidance of all mental excitement, the warm bath, keeping the head free from covering, causing the child to sleep on a hard pillow, and taking care that the child be not rocked to sleep previously to being placed in bed.

The diet should be light and digestible, but at the same time nutritious. The meals neither too close together nor too far apart. Acidity of the stomach is to be avoided. Air and exercise are also mentioned as important adjuvants.

ART. 84.—Treatment of Croup by the Application of Nitrate of Silver to the Interior of the Larynx. By Dr. BRYAN.

(*Southern Medical and Surgical Journal*, June 1848.)

This author narrates a case confirmatory of the practice of treating diseases of the larynx, advocated by Dr. Green (see Abstract, Vol. VI.), which consists in applying a strong solution of nitrate of silver to the interior of the glottis by means of a piece of sponge attached to a whalebone handle. He was called to a child, æt. 14 months, labouring under membranous croup, which, as it was losing ground under the ordinary treatment, he resolved to treat by the above means. The first application was of a solution of the strength of forty grains to the ounce of water. The bent handle of a spoon served as a spatula to depress and draw the tongue forward. The epiglottis was distinctly seen, and the sponge cut in a conical form, and, firmly fastened to a properly curved piece of whalebone, was rapidly passed behind it, and into the larynx. A temporary spasm of the glottis followed, and a free discharge of membranous and mucous fluid took place. This was succeeded by an improvement in respiration. The pulse was 130 per minute, and thready.

9½ P. M.—Respiration has improved somewhat; a free discharge of mucus by vomiting had taken place since the first application. The second application was followed by a copious flow of flaky and stringy mucus, white almost as milk; some blood from the nose was mixed with the discharge; epistaxis, however, has existed now and then, ever since the disease began.

22d. 8½ A. M.—The child has passed a tolerably easy night; free bilious evacuations from the bowels, the effect of two grains of calomel administered every two hours, since yesterday morning. Respiration now easy; the head is not thrown back as before; the child is in a quiet sleep; pulse 95, and regular; drinks cold water freely since the first application of the nitrate.

Third application, sixty grains to the ounce, into the larynx, followed by less spasm, very little irritation, and by free expectoration. Continue calomel, two grains every four hours.

7 P. M.—Three or four stools have been passed during the day. The child lies languidly on the pillow, with its chin raised, but quiet. The respiration dry and difficult. The first attempt at an application this evening failed, on account of the restlessness of the child, and the spasm which followed was great, and continued for several minutes. In the second attempt I succeeded in passing the instrument far down into the larynx, and brought up with it a quantity of tenacious mucus. The withdrawal of the instrument was followed immediately by the discharge of a large quantity of thick, membranous, tenacious, stringy mucus, somewhat streaked and yellowish, which resulted in the complete relief of the child, who laid back his head, and went to sleep in a few seconds.

23d. 8½ A. M.—The respiration of our patient is comparatively easy; slept well last night; has had four bilious stools. He is so much relieved, that we resolve not to apply the salt at present, but to hold ourselves in readiness to make the application, should it be demanded during the day.

6 o'clock P. M.—The child is sitting on his mother's lap, playing with his toys. Respiration slightly stridulous; has taken bread and milk; had three stools during the day, and has slept comfortably. The throat, as far as can be seen, is free from the diphtheritic deposit which at the first and second visits had been very evident, covering the fauces and soft palate with a milk-coloured membrane. Made no application this time, but directed to continue calomel, one-half grain every four hours, with one grain of quinine in syrup.

24th.—We met again, at 9¼ o'clock, A. M., and found the child lying comparatively easy in the cradle; but little sound in the respiration, which was but slightly impeded; had passed a comfortable night, slept well, taken nourishment, and passed three stools; no application; calomel to be continued; consultation to cease. Dr. Beasley informs me that the child got perfectly well, without a bad symptom, and that he thinks that the application was the means of saving its life.

It will be seen that none of the usual remedies, such as bleeding, emetics, cathartics, tobacco, &c. &c., with the exception of a few grains of calomel, were used in this case.

ART. 85.—*Cases of Membranous Laryngitis, in which Tracheotomy was successful in the advanced stage of the disease.* By Dr. C. D. MEIGS.

(*American Journal of the Medical Sciences*, Oct. 1848.)

A child, 4 years of age, becoming affected with difficult and noisy respiration, was placed under the care of a homœopathic practitioner; the parents having lost already a child from croup, recognized in this the same symptoms as were observed in the former case, and suggested to the medical attendant, that the child was labouring under that disease, but this he declared was not the case, but rather thought that the attack would turn out to be one of measles. The child, however, grew worse and worse—no eruption appeared upon the skin, and, at the end of two weeks, the respiration having become increased in difficulty, and attended with a distinct croupy sound, while the voice of the child was nearly extinct, the parents became alarmed, and sent for Dr. Meigs. His son, Dr. J. F. Meigs, immediately saw the patient, and found it in an advanced stage of genuine membranous croup, attended with symptoms of the most violent character; an extensive deposition of membranous matter appeared to have taken place, and the case was looked upon as almost hopeless. With the view, however, of affording, if possible, some relief to the extreme difficulty of breathing, the doctor directed the application of five or six leeches to the throat on each side of the trachea. Dr. C. D. Meigs now saw the child, and considered it to be in the most imminent danger. The croupal symptoms were intense. Upon auscultation, not the slightest respiratory murmur could be detected in any part of the chest, giving the idea of an individual labouring under complete hepatization of both lungs. The air passed into the lungs with the greatest difficulty, the respiratory effort being prolonged to an extent beyond what the doctor recollects to have ever before witnessed. The child was extremely restless, its head was thrown back upon the spine, and every moment strangulation seemed imminent. A half ounce of powdered alum was directed, and one drachm of it given to the child at intervals of twenty minutes, until emesis was produced, which did not occur until after the fourth dose. This was rather an uncommon occurrence, vomiting being generally produced by a single dose of the alum; it evidently indicated a torpid state of the nervous mass, the result of the great change produced in the blood, in consequence of the imperfect performance of the respiratory function. No nausea or prostration followed the action of the emetic.

Early the next morning found the child labouring under the most distressing difficulty of respiration; the surface, and particularly the face, lips, and tongue, were of a blue colour, and nearly all the symptoms of a state of asphyxia were present. Dr. Meigs considered that death was inevitable; but still, the operation of tracheotomy, though a forlorn hope, presented itself as the only possible means of relief. This was stated to the parents, who consented that it should be tried; accordingly, at eleven o'clock, the operation was performed by Dr. Pancoast. After laying bare the trachea, he divided the second, third, and fourth cartilaginous rings; immediately upon opening the trachea, a discharge took place of mucus, mixed with blood and portions of plastic lymph. In forty seconds, the child breathed with great freedom. Instead of inserting a tube in the usual manner, through the opening into the trachea, Dr. Pancoast secured the open state of this, by cutting from the trachea an elliptical portion of cartilage, thus leaving an oval opening into the tube somewhat larger than that of the two nostrils; while the edges of the incision through the soft parts were kept asunder by a leaden wire, which, passing around the neck, had the hooked ends of its two free extremities inserted on each side of the wound. The next day the child was up and running about. In a few days, the edges of the incision in the neck were brought together, the wound rapidly healed, and the child, within a surprisingly short period, recovered perfectly, without a single disagreeable symptom occurring.

ART. 86.—*On the Intestinal Hemorrhages of Newborn Children.*

By Dr. RILLIET.

(Gazette Médicale, Dec. 30, 1848.)

[We had commenced the translation of the following memoir from its original source, when we found that it had already been accomplished in the "London Journal of Medicine." Having convinced ourselves of the general accuracy of this translation by a comparison with the French, we have been happy to avail ourselves of it; thus abbreviating, in this particular instance, a portion of our labours. The essay commences with the literary history of the affection; after which, the cases already placed on record are made subservient to the following general observations.]

I. *Causes.*—The etiology of infantile melæna is still involved in obscurity. The subject may be treated of under the following heads:—

1. *Age and sex.*—It is essentially a disease of the early days of life. Generally, those affected are not more than from one to four days old; but, in a case mentioned by Gairdner, it did not come on till the eleventh day; and in another recorded by Ellinger, it did not occur till about the end of the fifteenth or twentieth week. From the cases which I have consulted not being all complete, the figures in the following table exhibit variations:—

Age.	No. of individuals.	Age.	No. of individuals.
12 to 30 hours	4	4 days	2
1 day	5	6 days	2
56 hours	1	11 days	1
2 days	2	15 weeks	1
3 days	1	20 weeks	1
Total	20		

Billard, in fifteen cases of passive hemorrhage, observed:—

Age.	No. of individuals.
1 to 6 days	8
6 to 8 days	4
10 to 18 days	3

It appears that the greater proportion of cases occurred among male infants.

2. *Hereditary tendency.*—From an analysis of cases made by Dr. Rahn-Escher, he has been led to attach much importance to this cause. He found that the mothers had been subject to irritation of the glands, derangement of the abdominal circulation, and disorder of the function of digestion, both during the existence and non-existence of pregnancy. It must be recollected, however, that these maternal conditions are very common, and that, nevertheless, melæna is extremely rare in newly-born infants. Hereditary influence can be more readily admitted, where the parents have been subject to hemorrhage (as in cases quoted by Hesse), or where several children of the same family have been simultaneously affected, as I have seen, or successively, as Dr. Rahn-Escher has observed.

3. *The circumstances attendant on the delivery, the state of the infant at birth, and its treatment immediately afterwards.*—Do they afford a more satisfactory explanation of the hemorrhage?—It has been alleged that long delay of the infant in a narrow pelvis, protracted labour, and difficult parturition produce melæna. By examining the imperfect cases which we possess, I have ascertained that the number of difficult somewhat exceeds that of natural labours; but in this there is nothing remarkable, as most of the mothers were primiparous. Besides, the difference is so inconsiderable as hardly to deserve to be taken account of. Kiwisch is the only author who, in reporting his cases, notices premature ligature of the cord as an active cause. In two of his four cases, the cord was prematurely tied; and in a third, symptoms of cyanosis obliged the midwife to cut the ligature. The greater number of Billard's fifteen cases were remarkable for plethora of the body, and a congested state of the integuments. The observations of authors, as well as our own, do not sanction plethora being regarded as a cause of melæna. Out of sixteen infants, eight were delicate and feeble, seven healthy, and only one asphyxiated.

4. *Rupture of a vessel* Brebis considers among the causes; but his hypothesis is entirely contradicted by pathological anatomy. Böhler, Billard, Rahn-Escher, Gendrin, Kiwisch, Hoffmann, Helmbrecht, and Dorington state that, in opening the intestinal canal, they have specially noted the absence of any grave lesion of the vessels. In some cases, nothing has been observed beyond the presence of extravasated blood in the stomach and large intestines, the mucous membrane being not more injected than it naturally is in newly-born infants (Gendrin, Kiwisch). In other cases, this membrane presented no lesions whatever; but the large abdominal vessels, the liver, spleen, heart, lungs, and cerebro-spinal system, were gorged with blood (Billard). The dilatation of the mesenteric and mesocolic veins—in some places to the size of a crow-quill—has been mentioned by Böhler. Helmbrecht has observed dilatation of the capillaries, with thinning of the mucous membrane. Dorington and Rahn-Escher have observed ramollissement, inequality, and redness of the mucous membrane of the large intestine, without extravasation of blood.

The true predisposing causes ought to be sought for:—

First, in the injection of the intestinal tube, a state which is normal in the newly-born infant, as has been shown by Billard. It is easy to understand how an exaggeration of this condition, arising from atony of the vessels, or an impediment to the abdominal circulation, produced by an arrest of blood in the vena portæ, or by the increased volume of the liver and spleen, should, in a high degree, predispose to intestinal hemorrhage.

Secondly, in the difficulty with which respiration becomes established. The blood, not being able to flow to the lungs, expands them but imperfectly, engorges all the other organs, and especially the intestines, which, being already in a state of congestion, are unable to support this new tax, and allow the blood to be emitted from the vessels into the cavity of the bowel.

II. *Description of the Disease, and Cases.*—I cannot give a better account of the disease than by detailing the two cases which occurred in my own practice. They are more complete than most of those recorded by authors.

CASE 1.—On the 30th of January, 1846, I was sent for (at 1 P. M.) to see a newly-born male infant, said to be in very great danger. The following particulars were communicated to me by the nurse and medical attendant, M. Maunoir: The infant (a twin) had been born at 4 A. M. Labour had not been very difficult, but sufficiently so for M. Maunoir to employ the forceps. The placenta had separated. The liquor amnii had been in small quantity. The umbilical cord presented nothing remarkable: it had been tied at the usual time, and in the ordinary manner. The infant was of the full time, not very large, but well proportioned, not plethoric, very lively, crying forcibly. All the functions appeared natural; the meconium had been expelled some hours after birth, after half a teaspoonful of castor oil. The child then had some rest, after which he sucked with avidity: nothing, in fact, could lead one to suppose that anything untoward had happened, till the nurse, in changing his linen, observed that some remains of the meconium had been expelled, mingled with a certain quantity of blood. Two hours later he passed a second stool, abounding with pure blood, liquid, and mixed with clots; and at one o'clock, when I was sent for, he had a third bloody motion. When I examined the little patient, he was deadly pale. His pulse was imperceptible; his legs and arms were cold; his eyes were habitually closed, as was likewise his mouth. He neither had the wish nor the ability to swallow, but retained the power of moving and crying. The abdomen was soft, not swollen, and pressure on it did not seem to occasion pain. He had no vomiting. I caused compresses, soaked in cold vinegar, to be applied to the abdomen, directing, at the same time, the extremities to be wrapped up in hot flannels. I prescribed two clysters, containing twelve grains (nearly ten grains of English apothecaries' weight) of the extract of rhatany.

They were almost instantly returned, accompanied by a very considerable quantity of blood. At four in the afternoon, the infant continued in the same state, when M. Maunoir and I prescribed compresses, soaked in a strong decoction of rhatany (two ounces to the pound), and clysters, with twelve grains of the extract. Like the former, they were almost immediately rejected, and followed by a copious discharge of fluid and clotted blood. He had the sixth

bloody stool about six in the evening. We were now satisfied with simply applying the compresses. The pulse rose to 120; the infant had slight trembling of the hands, and oscillation of the globes of the eyes, but nothing which could be properly called convulsions. The abdomen was not tympanitic. From 10 P. M. to eight o'clock the next morning, he was induced to take from eight to ten teaspoonfuls of colk milk, which remained on the stomach; he was then put to the breast. He seized the nipple easily; the pulse was regular, and of fair strength. At mid-day, he passed two scanty stools of a green colour, and destitute of blood. From this time improvement was progressive.

No appreciable cause, external or internal, hereditary or acquired, anterior, concomitant, or posterior to parturition, can be assigned as the cause of the invasion of the disease.

CASE 2.—The first child was in an alarming condition at six o'clock in the evening, when I was sent for to see the second, who was vomiting blood, and who, immediately after, passed several large stools of liquid blood, mixed with clots. I ordered for him clysters of rhatany; but, as in the case of his brother, they returned, being followed by copious bloody stools. I rested satisfied with applying to the belly compresses, soaked in a cold decoction of rhatany, and wrapping up the inferior extremities in flannels saturated with a hot aromatic infusion. The same general symptoms presented themselves as in the first case: paleness, coldness of surface, smallness of pulse, trembling of the limbs and trunk, and oscillation of the eyes, and an absence of abdominal distension. The bloody stools recurred during the night, but in diminished quantity. At one o'clock, he was in a worse condition than his brother; the pulse was lower, being only 112; there was great drowsiness. In the morning, he swallowed some spoonfuls of milk, but did not suck well. He was observed to be very lean; in this respect resembling his brother. On the 1st of February, at 9 A. M., I made the following report: From yesterday to one o'clock this morning, he has only had two small bloody evacuations, the last being between five and six o'clock. As yet, he has had no normal stool; he has taken the breast, on several occasions, with sufficient eagerness; the pulse is 120; the animal heat is everywhere sufficient; and nothing particular can be observed in the other functions. During the day, he began to have yellow stools, which continued on the following day, on which he took the breast with avidity. On the 2d of February, the pulse was 104, and the visage had improved. A cure was accomplished as promptly and as completely as in the case of his brother.

The symptoms and progress of the disease in the twins presented great similarity. The only difference consisted in this—that the elder had intestinal hemorrhage only, and that of very short duration; while in the second it was longer, and gastric as well as intestinal. In spite of the abundance of the sanguineous discharge, the celerity with which the infants became re-established was remarkable; and the quickness with which the gastro-intestinal mucous membrane resumed its natural functions was very striking. Twenty-four hours had not elapsed till digestion, in the elder, was completely re-established; a fresh proof that the affection is neither the result of the rupture of a vessel, nor of any serious alteration of the mucous membrane. The prompt restoration of the assimilative function points out to the practitioner the impropriety of allowing the infant to be long without nutriment—a point which, if neglected, might cause the little patients to perish from syncope or inanition.

The recovery of the twins was complete and satisfactory; they had no relapse. A paleness certainly remained for a long time, as an evidence of the excessive hemorrhage.

III. *Symptoms*.—The precursory symptoms are thus described by Dr. Rahn-Escher: An infant, on the day of its birth, slept almost continually; he changed his colour frequently; was seized with convulsions of the limbs and muscles of the face; deglutition was difficult, and often excited nausea. On the following day, hemorrhage set in. In another instance, slight agitation expelled the colour from the whole body, but especially from the face; and, beyond this, there were no symptoms of approaching disorder. Another infant was seized, four days after birth, with yellow, watery stools, convulsions, paleness of countenance, and great prostration of the vital powers; respiration was spasmodic;

the abdomen was very slightly tympanitic, but without heat or tension; he appeared to have a little pain, especially before each evacuation. The bleeding showed itself upon the evening of the same day. When hemorrhage has once set in, it is almost invariably very abundant. The infants may be said to swim in blood; their linen is soaked in it; the stools follow at near intervals, and contain a great quantity of blood, which is frequently well coloured, and rich in crassamentum, and sometimes liquid, or at other times mixed with numerous large clots. The first stools may be composed of a mixture of meconium and blood; but those which follow, almost always consist of pure blood. Hematemesis is rarer than hemorrhage; but perhaps it is also more considerable: children have had from eight to twelve attacks of vomiting blood. Etlinger quotes the case of a little patient who passed more than a pound of blood in vomiting and in stools. Though the hemorrhage is generally abundant from the commencement, yet sometimes, for one or two days, simple striæ and stains of blood are seen in the linen. Vomiting, along with bloody stools, is a little more frequent than intestinal hemorrhage; the former being in the proportion of 8, and the other of 7 to 15. In the cases which I have perused, hematemesis never existed alone. Sometimes it was more abundant than intestinal hemorrhage, but it always accompanied it. Hesse gives two cases in which there was only hematemesis.

A large and prolonged loss of blood, in a being so fragile as the newly-born infant, cannot take place without the whole system being profoundly involved. At the moment when the hemorrhage takes place, the infant becomes deadly pale. The pallid hue is accompanied by coldness of the extremities, debility, loss of plumpness, extreme smallness of pulse, inequality of respiration, and occasionally convulsions. There are almost no local symptoms, excepting inability to suck; there is nothing remarkable in the state of the mouth or abdomen, the latter being neither painful nor distended.

Dr. Rahn-Escher has insisted much upon another series of symptoms, the consequence of enormous loss of blood. The subjects of the cases collected by him remained lean, pale, bloated, weak, flabby, very prostrate, affected either with diarrhoea or constipation, and subject to convulsions. One had symptoms of rachitis; another sank from *tabes mesenterica* and hydrocephalus, at the age of one; and a third, when one year old, was not re-established, still preserving a deadly paleness.

IV. *Prognosis*.—In analyzing the cases of authors, I have satisfied myself that perfect recovery was more frequent than any other result. The following figures throw some light upon the measure of seriousness of this disease. It is to be observed, that the cases of Billard are not embraced in this *résumé*.

In twenty-three cases, in which mention is made of the termination of the disease, the issue was good in twelve and bad in eleven. Nine of the first class of infants were completely cured; the three other cases lapsed into cachexia. Of the eleven which died, death took place rapidly in nine, and slowly in two. Hesse maintains that, in certain cases, the hemorrhage may be considered as the salutary crisis of a plethoric condition. He believes that the melæna of infants is not more serious than the melæna of adults: an opinion in which I cannot concur.

V. *Diagnosis*.—The diagnosis is not always so very simple as might be imagined. The hemorrhage may be internal; in which case it is only by studying the general symptoms, that one can make out the nature of the disease. Sudden paleness, smallness of pulse, and debility may lead us to suspect that hemorrhage has taken place; but there is nothing to prove that the bleeding is from the intestines. On the other hand, when the hemorrhage is external, it cannot always be traced to the gastro-intestinal canal. Hesse has treated this subject very minutely; and we cannot do better than to quote, almost textually, his description. He speaks of two kinds of hemorrhage—the one true, and the other false; viz. *hematemesis et melæna vera*, and *hematemesis et melæna spuria*. The first of these is that which we have described; in the second, the blood comes from the supra-diaphragmatic portion of the alimentary canal. In the latter, the accumulation of blood in the stomach or intestine may be the result of different causes; viz.: 1st. Operations on the mouth, the nose, or the pharynx,

such as the operation for hare-lip, or division of the frænum of the tongue, when performed by inexperienced persons. 2d. Spontaneous hemorrhage from the mouth, pharynx, nasal fossæ, bronchial tubes, or lungs. All these kinds of hemorrhages, with the exception of epistaxis, are very rare in early infancy; but, according to Brebis and Vogel, they may be the result of compression of the neck during difficult labour. 3d. Swallowing of blood by the infant during birth. This cause was noticed by Burgel, an old observer. Schmitt makes a similar remark. Stellwag has seen a newborn infant (whose mother had had hemorrhage during its birth), with blood not only in the mouth, but also in the intestine, mingled with the meconium. Finally, the blood may proceed from the mammæ of the mother or nurse, when they contain little milk, and the infant sucks with avidity; or the blood may be drawn from excoriations of the mammæ.

The diagnosis, though very simple when the blood in the stomach is the result of a surgical operation, or of sucking, is sometimes more difficult when it proceeds from spontaneous hemorrhage from the nasal fossæ, or the supra-diaphragmatic part of the alimentary canal; but in newborn infants this is an extremely rare form of hemorrhage. When there is doubt, one of the best means of distinguishing true from false mæna, is to study thoroughly the concomitant and consecutive symptoms. In the false, they may be said to be absent, or advantage may seem to arise from the hemorrhage; whereas, in the true mæna, the serious consequences are observed which I have already enumerated.

VI. *Treatment*.—The cases which have enabled me to give a nosographic sketch of this disease, are very incompletely reported, as regards the treatment. In several instances, there have merely been administered soothing or gently laxative preparations, such as oil of sweet almonds and manna. This plan must have been adopted with a view to allay irritation of the mucous membrane, and to remove acrid matter from the bowels. In other cases, the treatment has been that directed against hemorrhages in general, such as the use of the mineral acids, cold, and astringents. Dr. Rahn-Escher gave to one patient diluted sulphuric acid in cinnamon-water, and to others he administered an emulsion, containing alum and musk, ordering, at the same time, fomentations of vinegar and quinine: cold compresses to the belly and astringent clysters have also been used. In my cases their employment constituted the only treatment.

To sum up, I believe that, in the almost entire inability to moderate, by means of internal remedies, any considerable amount of hemorrhage, we must be contented to place the infant in a cool and frequently changed atmosphere, and to apply the cold compresses to the belly, whilst the extremities are kept in a state of comfortable heat. Clysters appear to be useless: they fatigue the child, and are apt to cause stools; and, even when this latter result is obviated, they operate at a great distance from the seat of the disease, which is in the large intestine. If the pulse be very feeble, and the infant be threatened with syncope, there may be given some drops of wine, a little of the liquor of Hoffmann, peppermint-water, cinnamon-water, or other suitable stimulant. Perhaps urtication might prove beneficial. In all cases, it is necessary to sustain life by giving some spoonfuls of woman's milk cold, or by placing the child to the breast, if it have strength enough to suck: one or other must be done, even before the hemorrhage has been completely stopped. For symptoms of anæmia which may succeed, it will be necessary to subject the infant and his nurse to a somewhat lengthened course of chalybeates.

ART. 87.—*Treatment of Spina Bifida*.—Dr. Brainerd has treated this affection by injecting a grain of iodide of potass and half a grain of soda into the tumour, without evacuating the fluid in which it eventually becomes dissolved. As far as may be judged by a single case, this plan is attended by little or no danger.

Rev. Méd.-Chir., and Prov. Med. and Surg. Journal.

ART. 88.—*On the Purulent Ophthalmia of Infants.*
By MM. VON AMMON and MILDNER.

(*Journal für Chirurgie*, and *Brit. and For. Medico-Chirurg. Review*, April 1849.)

Dr. Wengler furnishes an account of the treatment pursued by Von Ammon in this destructive disease. A collyrium is prepared, consisting of three or four grains of ext. of belladon., six to eight drops of aqua oxymuriatica, and three or four ounces of water. By means of a small, fine sponge, dipped in this lotion, the morbid secretion is gently removed from between the eyelids, and a few drops then inserted, after which fine linen compresses, also soaked in the lotion, are kept applied to the eyelids. In half an hour, all this has to be renewed, the cries of the child announcing the discomfort produced by the accumulation of the secretion, and the removal of which from the ball of the eye is a great source of ease to it. After awhile, the belladonna is increased to five or six grains, and the aqua oxym. to ten or fifteen drops; the lotion being continued as long as the morbid secretion is produced, and being used at a higher temperature if the swelling is great, or the discharge ichorous. The indications sought to be fulfilled by its employment are the diminution of the spasmodic action and turgescence of the eye, and the procuring the enlargement of the pupil by means of the belladonna, while the secretions of the part are improved, and decomposition prevented, through the agency of the aqua oxymuriatica. Internally, purgatives are administered.



REPORTS

ON THE

PROGRESS OF THE MEDICAL SCIENCES.

January—June 1849.

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON THE PROGRESS OF PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

BY THE EDITOR.

PART I.—GENERAL PATHOLOGY.

OF the various new works which have reached us for notice during the past semestrial period, three only are suitable for detailed analysis in the present section of this Report: viz., one by Dr. Addison, on "Healthy and Diseased Structure;" a second by Dr. Bennett, on "Cancer and Canceroid Growths;" and a third by Dr. Day, on the "Diseases of Advanced Age." Others have come to hand, and will be noticed in their appropriate place, among which we may mention a fourth edition of Dr. Hope's well-known treatise on the Diseases of the Heart; a small treatise entitled "Thoughts on Pulmonary Consumption," by Dr. Madden; "A History of the Influenza of 1847-8," by Dr. Peacock; an essay on "Laryngismus Stridulus," by Dr. Reid; and "A Series of Clinical Lectures," by Dr. Duncan. The favourable opinion we entertain of the latter is sufficiently attested by the fact that several portions have been selected as extracts in a former volume (VIII. pp. 43, 48, 60), while they were in course of publication in the "Dublin Medical Press." We will only add further, that these lectures are all replete with practical instruction.

1. *On Healthy and Diseased Structure, and the true Principles of Treatment of Disease, especially Consumption and Scrofula.* By WILLIAM ADDISON, M.D.—Dr. Addison is already known as a laborious pathologist, and author of certain experimental researches, published in some of the earlier volumes of the "Transactions of the Provincial Medical and Surgical Association." The present volume appears to contain a condensed statement of the views there announced, and consists of two parts: the first treating of healthy and diseased structure in general; the second having reference especially to the pathology and treatment of scrofula and consumption. The whole is preceded by an introduction on the general nature of cells, and on vegetable morphology, in its analogy to the healthy and morbid conditions of animal growth and nutrition. The leading idea of the work appears to be that, in animals as well as in vegetables, there is not only the natural *forward* process of development, but that there is also a *retrograde* metamorphosis in the former as in the latter. To the botanist this retrograde metamorphosis is familiar, in the occasional return of the higher-developed parts of the flower to more elementary forms of the same tissues, as, for instance, the conversion of the stamens into petals, and these again into leaves. In the human subject, the analogue of this is seen in scrofulous disease, in which a lower grade of cell-formation takes the place of the higher. This idea is more particularly worked out in the second part of the book (p. 63).

In passing to a more detailed analysis of Dr. Addison's volume, we may state succinctly that the first chapter is entirely physiological, embracing in two sections the laws of embryonic development, and the process of nutrition, or the reciprocal action of the solids and fluids of the body.

The second chapter comprises the pathological history of scrofula, and also

gives the author's views of the nature of inflammation. He here enters into the nature of tubercle, and expresses his conviction that it is not to be distinguished from the product of inflammation, or from pus, excepting in such difference as exists between purulent matter recently excreted and the matter of an old abscess; each appears to have the same elementary constitution; the colourless corpuscles, pus, and tubercle passing insensibly one into the other. He also alludes to the interesting researches of Van der Kolk and Guillot, who have announced that, in the progress of phthisis, the capillary system of the pulmonary artery becomes obliterated in the neighbourhood of the tubercular masses, and is replaced by a new system of capillaries, supplied by the arterial blood of the aorta. This great vascular transformation he regards as the accompaniment of that change of the pulmonary parenchyma from "the simple fibrous, to the corpuscular type," which he considers as the analogue of the retrograde metamorphoses of the vegetable kingdom.

The third chapter, which is headed "Practical Psychology," like the former, has two sections: the first embracing the morphological and psychological aspects of the human body, and the classification of *causes*; the second treating of the phenomena arising from the application of irritants, hysteria, causes of disease, &c. This concludes the first part of the work; the second, which treats more exclusively of pulmonary phthisis, we shall notice at a further page.

2. *On Cancerous and Cancroid Growths.* By JOHN HUGHES BENNETT, M.D., F.R.S.E., &c.—This valuable and important addition to pathological science is a record of the author's recent labours in a department in which he has already made himself favourably known to the profession. In the present work, the microscopic appearances of fifty-six cases of disease are given, and are illustrated by woodcuts, for the accuracy of which the author pledges himself. In a subsequent portion, he has given a systematic history of cancer, derived from original observations, as well as from the writings of the best English and foreign authors.

The term *cancerous* comprehends the varieties of morbid growths variously termed scirrhus, encephaloid, and colloid, and in which nucleated cells are always found infiltrated among filaments of fibrous tissue. The word *cancroid* is, after Lebert, used to denote those lesions which more or less resemble cancers to the naked eye, and are continually mistaken for them, such as fibro-nucleated, epithelial, fibrous, cartilaginous, and other growths. Among the fifty-six cases reported, several are instances of disease for the first time related. (See Obs. 7, 9, 21-24, 33, &c.)

Passing on to the second part of the work, we may state briefly that Dr. Bennett treats of cancerous and cancroid growths under the following heads: 1. Histology; 2. Chemistry; 3. General Anatomy; 4. Pathology; 5. Statistics; 6. Diagnosis; 7. Prognosis; 8. Rational treatment.

I. *Histology.*—Cancerous and cancroid growths contain the following elementary forms: 1, molecules and granules; 2, naked nuclei; 3, cells of various kinds; 4, filaments or fibres; 5, blood-vessels; 6, crystals. These, Dr. Bennett observes, exist in all growths, and are neither alone characteristic of cancer; they only become important in relation to each other. They are severally minutely described, and illustrated by numerous admirable engravings, without which mere verbal descriptions are almost unintelligible. Under the head of "Cells," Br. Bennett furnishes us with much important information, particularly as regards the diagnosis of the cancer-cell. Speaking of the true cancer-cell, in contrast to the epithelial cell, he observes: "It is important to know that a young pavement epithelial cell, when isolated and viewed by itself, presents all the physical characters of the cancer-cell. This is especially the case when they have been lying some time in serum or other fluid; but when studied in mass, they can be more easily distinguished. The epithelial cells have a disposition to run together in groups, to adhere at their edges, and are of uniform size; cancer-cells, on the other hand, have not this tendency, but are mostly separated by granular and molecular matter. They never adhere at their edges, and vary much in size."

II. *Chemistry*.—Dr. Bennett does not think that any good is done by analyzing large masses of cancerous matter; but only by a careful examination of the minute structural elements. The chemical elements allowed by histologists are stated to be four: viz., albumen, fat, mineral principles, and pigmentary principles. *Albumen* forms the basis of the fibrous element of morbid structures, and is, as the author believes, directly converted into fibrin during the inflammatory process. *Fatty* matter exists as a free fat, fatty acid, saponifiable and non-saponifiable fat. Structurally, however, the author states, it is never free, for, when brought into contact with albumen, it is covered with a thin film of that principle. The mineral and pigmentary principles do not require special mention.

III. *General anatomy*.—In this section of his work, the author agrees with Dr. Walshe in admitting but three forms of cancer: viz., scirrhus, encephaloid, and colloid.

IV. *General pathology*.—The following is a condensed statement of the author's view of the origin and development of cancerous tissue. The filaments, cells, &c., which form cancer-tissue, originate in a coagulated exudation formed in the usual way. When first perceptible, cancer-matter consists of a finely granular matter, in which the cancer-cell arises as in a blastema. Part of the exudation is converted into cells, part into fibres, which interlace in every direction with the cells to form the stroma. Why the cancerous exudation should differ from that of simple inflammation or tubercle, Dr. Bennett is not able to say. Taking the former as the standard, he considers tubercle as below, and cancer as above par, as regards power of development; the former being deficient in that power, the latter having it in excess. Tubercular degeneration he believes to be a fault of primary digestion, cancer of the secondary; and he further states that they are, as it were, antagonistic principles.

The growth of a cancerous tumour takes place by rupture of the cells and development of the nuclei into independent cells, which give rise to others in turn. The blastema first supplied by the original exudation is afterwards derived from new vessels which develop themselves in the tissue, and by some mysterious, selective power, abstract the necessary ingredients from the blood. The growth once formed, increases slowly or quickly, according to circumstances. The cachectic appearance which accompanies the progress of the disease is, the author thinks, not connected with the cause, but is rather the result of perverted nutrition occasioned by it. He denies that cancer can be communicated by inoculation.

Cancer degenerates and dies like other vital formations; but it leaves forms which perpetuate its existence as long as they receive nourishment. The spontaneous arrest of cancer takes place, according to the author, in one of three ways, by the cells becoming aborted, and forming: 1, a cicatrix; 2, a fatty mass; 3, a calcareous mass.

That the former is a more frequent termination than is suspected, is rendered probable by the author's observations; and he feels assured that, when such facts are more diligently sought after, spontaneous cure of cancer will be found more common than has been supposed.

VI. *Diagnosis*.—The author admits the difficulty of diagnosing cancer from the symptoms alone, and he is equally indisposed to put implicit faith in the microscope alone. It is, he remarks, by the use of this instrument, conjoined with a careful appreciation of the general symptoms, that a diagnosis ought to be founded. He, however, cautions us that the subject is yet in its infancy.

VII. *Prognosis*.—This section of Dr. Bennett's work touches two questions of vital consequence: viz., the supposed uniform fatality of cancer, and its tendency to reproduction after removal. He brings forward several facts to show that cancer does not always continue to enlarge, but that it may sometimes become abortive. Much uncertainty is thrown around the second question by the want of precision, which is too often displayed in surgical reports and descriptions.

VIII. *Rational treatment*.—The author divides his remarks on treatment into three sections.

a. *The means of retardation and resolution*.—The growth of all cells being

influenced by elevated temperature, moisture, room for expansion, &c., the author points out the reasonableness of availing ourselves of the agency of cold, pressure, and a dry atmosphere.

b. Extirpation.—This may be done either by excision or chemical agents. As regards excision, Dr. Bennett has come to the conclusion that early excision should be resorted to. He is convinced that, if this were more frequently practiced, many valuable lives would be saved. After considering the usual objections made by surgeons to operating for cancer, Dr. Bennett maintains that any tumour, as long as it returns in the same place, should be excised, if the patient's strength be not too much reduced. He particularly advises a more careful examination than is usually made of the wound at the time of the operation, in order to ascertain whether any cancer-cells are left behind, and for this purpose he regards the microscope as indispensable.

c. Prevention.—Dr. Bennett has some useful hints on this point. He states that tubercle is essentially different from cancer, and is materially modified by the exhibition of animal oils; but cancer, on the contrary, he considers to be rather encouraged by a superabundance of the fatty principle in the system. He would, therefore, suggest that the cancer should be starved out, so to speak, by depriving the system of this principle, in so far as may be compatible with the maintenance of the general powers.

We now close our analysis of Dr. Bennett's volume, and in impressing upon our readers the necessity of being acquainted with its contents, will venture to assure them that, by the study of it in connection with the drawings by which it is accompanied, they will be made familiar with the natural history of cancer, as far as science has at present been able to unravel its mysteries.

3. *On the Domestic Management and most important Diseases of Advanced Life.* By GEORGE E. DAY, M. D.—It will appear strange that, until Dr. Day published the present work, we were destitute of a distinct treatise in the English language on the maladies incidental to old age, and the modifications required in their treatment; the literature of the subject, until this period, being entirely confined to a few separate treatises on individual diseases. Dr. Day has, therefore, we conceive, exercised a wise discretion in selecting this important subject as the field of his labours; but we should have been pleased to have found the scientific portion of the work more comprehensive, and the domestic part altogether omitted; for we are assured that the attempt to write so as to be intelligible to the public, at the same time to give satisfaction to the profession, is rarely quite successful. We do not, however, on this account, hesitate to recommend a perusal of Dr. Day's pages, as they contain a large amount of useful practical information, which the English reader will not be able to meet with elsewhere in his own language. Our space will not allow of a close analysis of Dr. Day's volume, and we shall, therefore, content ourselves with giving a general outline of its scope and intent. It consists of thirteen chapters. In the first, he discusses the different epochs of declining age, with the modifications, both anatomical and physiological, which the different organs undergo. These he takes in succession, as they appear in the respiratory, nervous, and circulatory systems. He also calls attention to what he terms the *insulation* of the different organs in the aged; or, in other words, the little sympathy which one has with another in a state of disease, which, as is well known, is directly the reverse in the maladies of childhood.

The third chapter, on the medical treatment of old age, the reader will find of value; but the subject is, we think, scarcely treated with the detail which its importance demands.

Chapter IV. contains the history of the affection which has been termed by Sir H. Halford the climacteric disease; and Chapter V. treats of senile marasmus. Both these chapters are brief.

In the succeeding chapters, Dr. Day considers the diseases most fatal to advanced life, commencing with pneumonia, the great frequency of which, in old persons, he believes to be much underrated. In alluding to the causes of the disease, he calls attention to the importance of frequently changing the posture of aged persons, as the long persistence in one position favours the hypostatic

congestion of the lungs. He points out how commonly the disease is latent, and the consequent necessity for frequent stethoscopic examination. In the treatment, he relies on stimulating expectorants; calomel and opium have not the same value as in the pneumonia of middle age. After pneumonia, the author discusses, in succession, bronchitis, bronchorrhœa, and asthma; under the latter head, he describes the "urinous" and "gouty" asthma of Schonlein, which, as they are varieties not sufficiently understood in this country, we have given as "Abstracts" in a former part of this volume (see art. 18).

Chapter VIII., which we regard as the most valuable portion of Dr. Day's volume, is occupied with the diseases of the nervous system in old age. It is divided into six sections, the contents of which are respectively apoplexy, meningeal apoplexy, cerebral softening, meningitis, mental diseases of old age, neuralgic affections. Each and all of these topics are treated of in a practical manner, but with too much brevity. This, we trust, the author may be induced to rectify, should another edition be called for.

The ninth and tenth chapters are taken up with the diseases of the alimentary canal and the heart.

In Chapter IX., the author treats of the diseases of the genito-urinary apparatus, under four sections. One of these will be found among our "Abstracts" (art. 26). The diseases of the skin are considered next, in Chapter XII.; after which, we have the treatment of ulcers of the lower extremity and senile gangrene: on each of these subjects the reader will find much valuable information. In the last chapter, we have a description of gout and rheumatism; and the volume terminates with an account of the treatment of rheumatic and neuralgic disorders, by the "firing" plan of Dr. Corrigan, of which we have given an account in a former volume (III. p. 172). We have, since the date of Dr. Corrigan's paper, had frequent opportunities of testing the mode of treatment in question, and can fully confirm Dr. Day's favourable opinion of its merits.

§ I.—Zymotic Diseases.

1. *Fever*.—We have to notice several important additions to the literature of this extensive subject, since the date of our last report. The first of these is an essay by Dr. Davies, of Bath, which formed the address on Medicine at the last meeting of the Provincial Medical and Surgical Association. It is entitled

2. *Fever in its Relation to Sanitary Reforms*.—The author commences his subject with the endeavour to establish that there is a form of fever to which the following description applies:

- 1st. That its progress is marked by a specific eruption.
- 2d. That it is propagated by contagion.
- 3d. That there is no distinct evidence of its ever spreading in any other way than by contagion.
- 4th. That the same individual is not, for the most part, liable to a second attack.

This is typhus or maculated fever.

In support of his first proposition, the author, omitting any reference to the older authors, quotes the descriptions of the disease as given by Drs. Alison, Peebles, West, Henderson, Davidson, and Watson; narrating, at the same time, several well-marked cases which came under his own care at the Bath United Hospital. To prove the second proposition, he is also content to refer to Alison, Graves, and other eminent authorities, without mentioning their observations at length. The consideration of the third proposition is deferred to a future part of the essay, and the author proceeds to discuss the fourth—that typhus occurs but once in the same individual.

The cause of fever is considered to be a poison which enters the blood, and then propagates itself with the help of appropriate materials therein found. He thinks that some of these materials, which are not essential to life, are destroyed by the process of "zymosis," as it is called; and hence the reason that the individual is not liable to a second attack. If this be the case (he continues), it follows that the period between exposure to contagion and the commencement of disease is that during which the poison is accumulating in the blood; that

the beginning of fever corresponds with that amount of saturation which is incompatible with health; and that convalescence coincides with the maturation and elimination of the poison. In corroboration of the opinion expressed in this proposition, the author next adduces the evidence of Dr. Davidson, whose tables show that, out of 609 cases of maculated typhus, only 74 stated that they had previously laboured under fever; and, as he rightly observes, knowing how the different varieties of fever are confounded together, it is probable that many of these had not been the subjects of true spotted fever.

Having thus determined the distinctive characters of true typhus, the author next alludes to another form of fever, which has been ably described by Dr. Wardell, and which is not characterized by maculæ, but has great tendency to relapse, has but a small mortality, and does not afford immunity to a second attack. After this, he proceeds to discuss the question of fever more directly in reference to sanitary questions. He dissents, *in limine*, from the opinion which may be considered as the foundation of the sanitary movement: viz., that typhus can originate in decomposing animal and vegetable matter; but, at the same time, he guards against the imputation of indifference to the benefit which may indisputably accrue to the poorer classes by improved hygienic arrangements. His object is to counteract our overweening confidence in the powers of sewerage, &c., to eradicate disease, by showing that fever does not depend upon defective sewers only, but will always exist while fluctuation in the price of food and in labour exists, and while the population remains in a state which does not enable it to arrive at and maintain such a degree of health and vigour as shall cause it to cease to be predisposed to zymotic diseases.

It must be observed that Dr. Davies is here alluding to true typhus: he does not deny the power of local causes to originate a fever; indeed, he alludes to the instances, which we have already given (Vol. IV. p. 180), narrated by Dr. Christison in proof of this.*

3. *Typhus and Typhoid Fevers: Question of Identity.*—This disputed point in the history of fever has recently met with careful investigation at the hands of Dr. W. Jenner, who has made the examination of 66 fatal cases of fever the basis of his inquiries. The result of these we shall give as briefly as possible.

These 66 fatal cases were arranged in two groups, placing in the one the cases in which Peyer's glands were found to be diseased, in the other those in which, as far as the unassisted eye could determine, these glands were in a healthy condition. The first group contained 23 cases, being instances of typhoid fever, the latter 43 cases of true typhus.

In order to bring out the differences of these two fevers in prominent relief, the author proceeds to contrast them under various aspects. Thus:—

Previous state of health, &c.—In both classes of fever, the patients, as a general rule, were in good health previous to the attack. Their size and weight were also nearly equal.

Complexion.—In "typhoid" fever, 80 per cent. were noted to be of fair complexion; in "typhus," 30 per cent. only were fair; some fallacy is, however, admitted on this point.

Sex.—Of the "typhoid" cases there were 13 males; 10 females. Of the "typhus" cases, 20 were males; 23 females.

Age.—The average age of the typhoid patients was 22.08 years; the youngest was 10, the oldest 36 years. The largest number of cases occurred between the ages of 20 and 29.

In typhus, the mean age was 41.8; the youngest 8 years, the oldest 70. The largest number occurred between 40 and 50.

Duration.—This is a point always difficult to ascertain, from the want of correct data respecting the first sensations of illness, especially in the class of patients who, as hospital inmates, were the subjects of the present inquiries. The author attempts an approximative calculation, but we do not regard his deductions as of sufficient value to be of service in the solution of the question upon which he is engaged.

Eruption: Typhoid.—The eruption in the typhoid cases was papular, slightly

* Transactions of the Provincial Medical and Surgical Association, 1848.

elevated, but not acuminated, rounded at the base. The patches were circular, of a bright rose colour, without a well-defined margin. *They disappeared completely on pressure*, resuming their characters when that was removed. This fact was observed from first to last. They never passed into petechiæ. The ordinary duration of the papulæ was three or four days, and fresh papulæ made their appearance every day or two. The number seen at one time was generally from six to twenty, and usually occupied the abdomen, thorax, and back. A pale scarlet tint of skin sometimes preceded the eruption. These observations are thus recapitulated:

1st. Rose spots were detected in all cases admitted before the fourteenth day of the disease.

2d. They usually appeared from seven to fourteen days after the first symptoms of the fever.

3d. The ordinary duration of each spot was three days.

4th. Fresh spots appear every day or two, till from the twenty-first to the thirtieth day.

5th. The fever terminated by the thirtieth day, as proved by no spots appearing after that day, unless in the case of a relapse.

Eruption: Typhus.—In typhus, the eruption was never papular, and its characters varied with its duration. On its first appearance, it consisted of dusky pink spots of irregular outline. In two or three days the spots were no longer elevated, and were darker; they faded, but were not obliterated by pressure. In some, the centre became dark purple, and remained unaltered by pressure, or they became converted into true petechiæ. The typhus spots are very numerous, and are usually found on the trunk and extremities, sometimes limited to the former. When numerous, they had not all the same intensity of colour; by which a mottled appearance was produced on the skin. To sum up:

1st. The typhus-rash was present in all cases.

2d. It usually appeared from the fifth to the eighth day of the disease.

3d. Fresh spots never appeared after the second or third days of the eruption.

4th. The duration of each spot was from its first appearance till the death or recovery of the patient.

5th. The rash disappeared between the fourteenth and twenty-first days; when death occurred after the latter date, it was the result of local disease.

6th. In no case was there any true relapse.*

By this interesting communication, the non-identity of typhoid and typhus fevers appears to be established on the following grounds:—

The presence and absence of diseased Peyerian glands in the two fevers respectively.

In the average age of patients attacked; no typhus being 22 years, or typhoid 41.

In the character of the cutaneous eruption, which is distinct in the two fevers.

In the tendency to *relapse* in typhoid; its absence in typhus.

—In connection with the subject of fever in general, we take the opportunity to direct attention to a series of papers by Mr. Macilivan, now in course of publication in the "Medical Times;" and likewise to the communications of Mr. Todd (Lancet, January 1849). Dr. Paterson, of Leith, has also given a full and accurate account of the epidemic of 1847–8, as it appeared in Leith and its neighbourhood.†

4. *Intermittent Fever: new Symptom.*—This sign, pointed out by M. Vanoya, consists in a peculiar condition of the conjunctival membrane of the lower eyelid. In a healthy subject, this surface presents a more or less vivid colour; but when intermittent fever has lasted some time, M. Vanoya affirms that a pale crescentic line is seen, the extremities of which correspond to the canthi, and the concave edge embracing the sclerotic. This line is seen by everting the lower eyelid, and causing the patient to look upwards. It is said to disappear under the use of quinine.‡

5. *Scarlatina.*—Mr. Tripe has written at great length on this eruptive fever, in a series of papers published in the "Medical Times."§ He defines the dis-

* Monthly Journal, April 1849.

† Medical Times.

‡ Edinburgh Monthly Journal.

§ November and December 1848.

ease, as it is generally believed in the present day, to be a specific inflammation, not only of the skin, but also of the mucous membranes of the alimentary canal and urinary passages, which terminates in desquamation. A great part of his earlier papers are taken up with the description of the epidemic scarlatina of 1848, which he shows to have been distinguished by the severity of the anginous symptoms.

He admits three varieties of scarlatinous dropsy: 1, that arising from simple debility, in which the urine is not albuminous; 2, that arising from subacute inflammatory congestion of the kidney; 3, that arising from acute inflammation and disorganization. In both the latter forms, the urine is albuminous. His treatment of these affections does not differ from that which will be found in our abstracts in the present volume (art. 3).

— Dr. Miller reports 219 cases of scarlatina, of which 59 were followed by dropsy, while in 10 this symptom appeared without any precursory rash. Scarlatina is divided by him into four species, according to the intensity of the symptoms, the absence or presence of dropsy, &c., and he remarked that, in general, the anasarca and albuminuria were in converse ratio. In discussing the question whether renal dropsy should be considered as a sequela, he announced his opinion that the renal affection is an integral part of the disease, and as much the direct effect of the scarlatinous poison as the eruption. In proof of this, he instanced the ten cases in which anasarca and albuminuria were not preceded by the cutaneous efflorescence.*

— An excellent paper has also been contributed by Dr. Scott Alison, in which similar views of the relationship of the renal affection are entertained. The most practical portions of this essay appear among our extracts (art. 4); together with several other important notices of scarlatinous dropsy.†

— Some of the time of the Westminster Medical Society has been recently occupied by a discussion on the merits of the treatment of scarlatina by acetic acid, as advocated by Mr. S. R. Brown, in a little book published a year or two back. (See Half-Yearly Abstract, Vol. III. p. 147.) The author places great faith in that mode of treatment, and affirms that it prevents the occurrence of dropsy; but this, as well as the general advantages of the medicine, appeared to be a disputed point with the majority of the speakers.‡

6. *Influenza*.—Dr. Bevill Peacock has published a highly useful and valuable history of the epidemic catarrh of 1847–8, which it was our intention to have noticed in our last Report; but which, in consequence of the space occupied by the general index, we were compelled to postpone, together with other communications.§

Epidemic catarrh, as it appeared in the metropolis, is divided by the author into three varieties:—

1st. Simple catarrhal fever.

2d. Catarrhal fever, with pulmonary complication.

3d. Catarrhal fever, with abdominal complication. This latter is further subdivided into: (a) simple enteric fever; (b) fever, with bilious disorder and remittent type; (c) gastro-enteric fever, with rheumatic complication.

The first of these, the simple catarrhal fever, was a comparatively trifling ailment; but the severity was much increased in the second order of cases.

The pulmonary complication observed by the author appears to have been acute or subacute bronchitis; bronchitis complicated with pulmonary tubercle, or heart disease, and pneumonia. Of these, the former was the most frequent, and was fatal in a large proportion of instances, even when uncomplicated with tubercular deposit. The cases accompanied by pneumonia were less formidable.

The variety of the disease accompanied by abdominal complication appears to have been very fatal in proportion to the number of cases observed; and, from the description, might as well have been termed typhoid fever with catarrh.

* Reported in various journals of January 1849.

† London Journal of Medicine, March 1849.

‡ Medical Gazette, No. 17.

§ On the Influenza, or Epidemic catarrhal Fever of 1847–8. London, 1848.

rhial complication, as catarrh with abdominal complication. The predominant symptoms, as well as the post-mortem appearances, were evidently typhoid.

The latter pages of Dr. Peacock's volume are those which will find most favour with our readers, as they offer a most admirable summary of the treatment adapted to the different phases of the disease.

In the pulmonary complications, it was early ascertained that depletion, to any great extent, was prejudicial, though temporary benefit sometimes followed a small local depletion. The most successful treatment was that which had throughout some reference to the sustenance of the general powers, with the careful employment of calomel and antimony.

The treatment of the cases with abdominal complication was conducted on the mild expectant plan; the early stages by gentle diaphoretics, the latter by tonics and stimulants. Where a tendency to remission existed, quinine was early resorted to. In the rheumatic form of the disease, decided benefit followed the use of colchicum in small doses; but it was found necessary in all cases to combine it with ammonia and other stimulants.

The volume concludes with a series of illustrative cases, and is, as a whole, an important addition to the literature of epidemic diseases.

7. *Glanders*.—Dr. H. Graves records two additional cases of this disease in the human subject, both of which occurred in persons who had been occupied in skinning a dead glandered horse. The chief interest in the communication is the mention of a white zone surrounding the glanderous pustules as distinctive of the disease.*

8. *Cholera*.—As this disease has a second time been prevalent during the period which has elapsed since our last Report, we may be expected to give some account of its progress and treatment. The communications on the subject which have reached us, and which have appeared in other journals, are almost endless; and it might reasonably have been expected that some new idea, or some improvement in the results of treatment, would have been elicited. We are constrained to say that in this respect our anticipations have not been realized; for we do not observe that the experience which has been accumulated has in any degree diminished the mortality of the disease. We observe in the present epidemic what we noticed in the previous one, that, on the first invasion of the disease in any locality, the mortality was pretty uniformly one in two or three; and that after a time the virulence of the disease appeared to be partially exhausted, and recoveries thus became more frequent, and were frequently and erroneously attributed to the favourite mode of treatment of the particular practitioner, when in reality the improvement was due to the smaller intensity of the poison. We are not able, with any justice to the writers, to give an analysis of a tithe of the communications before us, and we shall therefore content ourselves with enumerating the titles of the principal:—

"Reports on the Asiatic Cholera as it appeared in the Madras Army," by Samuel Rogers, Esq.;

"Cholera at Malta in 1837," by Dr. Stillon;

"Cholera Gleanings," by Dr. Gilchrest;

"Two Lectures on Cholera and Intermittent Fever," by Dr. Bell;

"Code of Safety," by Dr. Collier;

"Sketch of a Novel Treatment of Diarrhoea and Cholera," by Dr. Skiers;

"Practical Observations on a Successful Method of Treating Cholera," by Dr. Patterson;

"Cholera, its Electrical Origin," &c., by Dr. Holmes;

"Observations on Malignant Cholera," by Dr. Buchanan;

"On the Treatment of Cholera," by Dr. Billing;

"Lectures on Cholera," by Dr. Chambers.

* Dublin Quarterly Journal, November 1848.

§ II.—Diseases of the Blood.

9. *Purpura*.—Two analyses of the blood in two cases of purpura have been published by Dr. Parkes. In one case, the fibrine was much increased from the occurrence of rheumatic inflammation; in the other, as in the analyses of Andral and Routier (Abstract, Vol. III. p. 268), it was greatly diminished. The corpuscles were below the average in both. The most remarkable fact elicited in the present cases was the existence of an increased proportion of iron, which would, *à priori*, be thought incompatible with a condition of passive hemorrhage.*

In the treatment of purpura, Mr. Carlyon confirms the opinion of the value of nitre in this disease. He gives it in doses of ten grains every three or four hours.†

10. *Anæmia—Peculiar Form of*.—Dr. Addison has called the attention of the profession to a form of anæmia which he thought had not been previously noticed. It was a state of general anæmia incident to adult males, and had for several years past been with him a subject of earnest inquiry and of deep interest. It usually occurs between the ages of twenty and sixty; sometimes proceeding to an extreme degree in a few weeks, but more frequently commencing insidiously, and proceeding very slowly, so as to occupy a period of several weeks, or even months, before any very serious alarm is taken either by the patient or by the patient's friends. Its approach is first indicated by a certain amount of languor and restlessness, to which presently succeed a manifest paleness of the countenance, loss of muscular strength, general relaxation or feebleness of the whole frame, and indisposition to, or incapacity for, bodily or mental exertion. These symptoms go on increasing with greater or less rapidity: the face, lips, conjunctiva, and external surface of the body become more and more bloodless; the tongue appears pale and flabby; the heart's action gets exceedingly enfeebled with a weak, soft, unusually large, but always strikingly compressible pulse; the appetite may or may not be lost; the patient experiences a distressing and increasing sense of helplessness and faintness; the heart is excited, or rendered tumultuous in its action, the breathing painfully hurried by the slightest exertion, whilst the whole surface bears some resemblance to a bad wax figure; the patient is no longer able to rise from his bed; slight oedema, perhaps, shows itself about the ankles; the feeling of faintness and weakness becomes extreme, and he dies either from sheer exhaustion, or death is preceded by signs of passive effusion or cerebral oppression. With all this, the emaciation or wasting of the body, though sometimes considerable, is not unfrequently quite disproportionate to the failure of the powers of the circulation—relaxation and flabbiness, rather than wasting of the flesh, being one of the most remarkable features of the disorder.

Dr. Addison next proceeded to give the details of several cases which had fallen under his own immediate observation. In only two of these did the patients recover: the one, a man below the middle period of life, who was looked upon as past all hope, and suspected to be suffering from some latent malignant disease, slowly but steadily recovered under the free use of brandy, but with the singular result of the hair of one side of his head turning permanently gray, whilst the other retained its original brown colour. The second case of recovery occurred in a gentleman above middle age; it was by no means far advanced, but was sufficiently well marked to excite alarm. He left his business, quitted London, and sought recreation in the country. After a time he returned, and appeared to have shaken off the disorder almost entirely. In three cases only was there an inspection of the body after death, and in all of them was found a diseased condition of the supra-renal capsules. In two of the cases, no disease whatever could be detected in any other part of the body. Dr. Addison inquired if it were possible for all this to be merely coincidental. It might be so, but he thought not; and making every allowance for the bias

* Medical Gazette, November 10, 1848.

† Provincial Medical and Surgical Journal, December 13, 1848.

and prejudice inseparable from the hope or vanity of an original discovery, he confessed that he felt it very difficult to be persuaded that it was so. On the contrary, he could not help entertaining a very strong impression that these hitherto mysterious bodies—the supra-renal capsules—may be either directly or indirectly concerned in sanguification; and that a diseased condition of them, functional or structural, may interfere with the proper elaboration of the body generally, or of the red particles more especially. At all events, he considered that the time had arrived when he felt himself warranted in directing the attention of the profession to these curious facts. Dr. Addison, also, in regard to the anæmia he had described, alluded to cases of purpura, and some of the more anæmiated forms of chlorosis in the female, which he could not but regard as being more or less allied to the morbid state to which he had directed their attention. Indeed, not only had he found the anæmia in question occasionally occurring in connection with purpura, but had observed, in cases of the latter disorder, certain local symptoms which pointed somewhat significantly to the seat of the supra-renal capsules; whilst the bloodless and waxy appearance of certain chlorotic females bore so close a resemblance to the anæmia described, that it was difficult not to suspect the existence of something common to both.*

11. *Anæmia—Enlargement of the Thyroid Gland.*—Dr. Begbie, in a valuable memoir lately published, endeavours to trace a connection between an anæmic state of the system and bronchocele. He relates three cases which were the means of calling his attention to this apparent correlation of disease. The same subject had been previously noticed by Dr. McDonnell in the “Dublin Journal,” vol. xxvii., by Sir H. Marsh, and by Dr. Graves (Clinical Lectures, ii. 193); but these physicians regarded both the enlarged thyroid and prominent eye as the result of heart disease, and did not remark their connection with a general bloodlessness of the system.†

§ III.—*Adventitious Products.*

12. Under this section, we are called upon to notice the article in the “Cyclopædia of Anatomy and Physiology,” by Dr. Walshe, which offers to the profession a succinct and, at the same time, masterly account of the various abnormal products to which the human subject is obnoxious. An adventitious product is determined by the author to be “any substance which is either produced by or developed in connection with the animal frame, neither forms a natural constituent element, nor a natural secretive product of the structures in which it is involved.” These substances are very numerous, and present themselves under three forms: the solid, the liquid, and the gaseous. The solid formations are arranged by the author in two main groups—the *nonplastic*, or *precipitates*, and the *plastic*, or *formations*—the various subdivisions of which are exhibited in the following table:—

CLASS I.—NON-PLASTIC PRODUCTS, OR PRECIPITATES.

SUB-CLASS I. (<i>Saline</i>)	}	Sect. I. Particles.	}	A, Calculi. B, Concretions.
Produced by precipitation.				
SUB-CLASS II. (<i>Animalized</i>)	}	Sect. I. Protein compounds.	}	II. Fat. III. Sugar.
Produced by exudation.				

* Medical Gazette, March 1849.

† Monthly Journal, February 1849.

CLASS II.—PLASTIC PRODUCTS, OR FORMATIONS.

SUB-CLASS I. Products possessed of a dependent existence, and derived from a blastema. <i>Blastemal formations.</i>	Order I, Derived from a blastema which generates cells deficient in vegetative power and permanency. <i>Deposits.</i>	Sect. I. Typhous deposit. II. Tuberculous deposit. III. Purulent " IV. Melanic " V. Diphtheritic "		
	Order II, Derived from a blastema which generates cells possessed of vegetative power, but deficient in permanency. <i>Growths.</i>	Sub-order I. Deficient in the power of infiltrating tissues. <i>Non-infiltrating growths.</i>	Of protein basis	Hematoma, Sarcoma, Cystoma, Angeiectoma, Melanoma?
			Of fat basis	Lipoma, Steatoma, Cholesteatoma.
			Gelatin basis	Fibroma, Enchondroma, Osteoma.
			Undetermined basis	Colloma.
		Sub-order II. <i>Infiltrating growths.</i>	Protein basis	Carcinoma.
		Sub-order I.	Induration matter.	
			Extra vascular	Epithelium, Hair, nail, Cartilage.
	Order III, Derived from a blastema which generates cells deficient in vegetative faculty, but possessed of permanency. <i>Pseudo tissues.</i>	Sub-order II. Simulating the natural tissues.	Simple vascular	Cellular, serous, Fibrous, elastic, Osseous, Nervous.
			Compound vascular . . .	Erectile tissue, Lymph vessel, Fibro-cartilage, Bone, tooth, Cutaneous, mucous, Glandular, Muscular.
SUB-CLASS II. Products possessed of independent existence, and derived from a germ. <i>Germ-formations.</i>	Order I.	{ Entozoa, Epizoa.		
	Order II.	{ Entophyta, Epiphyta.		

Our readers will not fail to perceive that it would be impossible, in the limits of these Reports, even to glance at every individual substance contained in the above table, wherefore for information on many of them we must be content to refer to the original; but as certain of their number are of more direct importance in practice than others, we think it will be useful to devote a brief space to their consideration.

13. *Albuminuria*.—The conditions under which albumen may exist in the urine are stated by Dr. Walshe to be—1. From an unnatural state of the blood, as in purpura and scurvy. 2. Morbid states of the genito-urinary apparatus. 3. Accidental mixture of the genital products. 4. Some cause hitherto unestablished.

Under the second head, we may have *functional* and *organic* albuminuria. The knowledge of the conditions under which the former may appear is of great importance, as without this an erroneous prognosis may frequently be given.

The urine may exhibit a coagulum from the admixture of semen, as well as of the leucorrhœal and menstrual discharges.

Among the undetermined causes of albuminuria mentioned by Dr. Walshe, are certain acute and chronic diseases unconnected with disease of the kidney, more particularly diseases of the heart.

14. *Fatty Degeneration*.—Unhealthy formation of fatty and oily substances is of frequent occurrence; this is seen in general obesity, upon which subject we may refer to a paper by Dr. Wardell,* and in fatty transformations of various organs, as the liver, heart, kidneys, muscles, &c.

Dr. Walshe speaks of three forms of fatty disease of the *liver*: the one, the "fatty liver" par excellence, as is seen to coexist with phthisis; an adipose condition, which is in some undetermined manner associated with cirrhosis; and a third form, which the author has met with but three or four times, consisting in the deposit of cholesterine crystals among the hepatic cells.

Fatty disease of the *kidney* is spoken of in connection with the information derived from Gluge and Johnson, as to its existence in one variety of Bright's disease.

15. *Fatty Degeneration of Muscle*.—The fatty transformation may affect both orders of muscle, the voluntary and the involuntary. A remarkable example of the former has very recently been placed on record by Mr. Hallet, in the case of the body of a man, æt. 78, who had died of paralysis. On dissection, all the muscles of the back could not be distinguished, many of them, as well as of those on the front of the chest, having undergone the fatty transformation. Some of the muscles were entirely transformed into adipose tissue, others more partially so. The muscles which were thus altered are enumerated by the author in the following order:

In the back, the face, and region of the scalp, all the muscles, with the single exception of the latissimus dorsi, were completely converted into fat.

In the cervical region, the altered muscles were the recti antici, the longi colli, and the scaleni.

In the region of the trunk, the muscles completely transformed were the pectorales, the serrati magni, the diaphragm, both external obliques, and the psoas magnus and quadratus of the right side. The intercostals, the recti, and the transversales were only partially affected.

In the upper extremities, the muscles wholly transformed were the triceps, the biceps, and brachialis anticus, the supinator, both extensores carpi radiales, the extensor communis digitorum, and the whole of the palmar muscles. More partially changed were the deltoid and scapular muscles, the flexores carpi radiales, and profundi digitorum.

In the inferior extremities, the transformation was equally extensive.

None of the involuntary muscles were affected, with the exception of the heart.

The author, after quoting other examples of this peculiar change, remarks, that it is apparently strictly confined to that species of muscular fibre called the "striated." It is the result of various diseases which prevent due exercise, and thus interfere with the nutrition of the muscles. Amongst these is paralysis, as in the present instance, and rachitis. It is also not unfrequently seen in cases of club-foot, ankyloses, unreduced dislocations, &c. The deposition of fat is very slow, and has been ascertained by examination to take place within the sarcolemma, the muscular tissue being absorbed *pari passu*. It is this internal deposit that distinguishes true adipification from other appearances sometimes found in old decrepit individuals, and which are caused by the deposition of fat in the outer fibrillar cellular tissue.†

16. *Tubercle* is arranged by Dr. Walshe under the class of blastemal formations, order Deposits. His description of this product, together with its

* Medical Gazette, April 8, 1849.

† Edinburgh Medical and Surgical Journal, April 1849.

chemical and microscopic history, afford nothing of particular interest, but on the disputed question of the affinities of tubercle and the semi-transparent granulation, he has observations which are worthy of repetition. Dr. Walshe agrees with Laennec and Louis, that the gray, semi-transparent granulation is an antecedent stage of yellow tubercle, for the following reasons: Because yellow tubercle appears in the centre of gray granulation at a certain stage of its existence, and gradually fills the whole space occupied by it. In the lungs, also, the gray granulation follows the same topographical course as yellow tubercle, originating in the upper lobes, and migrating downwards. The two are likewise so constantly found together, that Louis only found granulations without tubercle four times, and the latter without the former only once. The relationship between the two is further sustained by microscopic inquiry.

Dr. Walshe believes that tubercle may, under favourable circumstances, be absorbed *in toto*, and instances, in proof of this, the disappearance of scrofulous glands, and the recovery from bronchial phthisis in childhood. He states that he has never seen a cicatrized tubercular cavity in the lungs, and doubts, with reason, that the puckerings of the pleura, which are so often quoted as evidences of that termination, are capable of being so interpreted.

We owe some apology to Dr. Walshe for so curt a notice of his important article; but our limited space, and the numerous matters of which we are compelled to take cognizance, must be our excuse. We need not say that Dr. Walshe's character as a profound pathologist is a sufficient guarantee that his "Essay on Adventitious Products" offers an accurate view of the present state of knowledge on the various subjects treated of.

17. *On the Existence of Free Carbon in the Human Body.*—Dr. Paxton, of Rugby, has presented a brief memoir on the production and extrication of uncombined carbon in various parts of the body; turning his attention, however, chiefly to its accumulation in the pulmonary tissues. Contrary to the opinions of Brockmann and others (Abstract, II. 169; III. 38), that "black pulmonary matter" is not only innocuous, but has even the power of putting a stop to tubercular deposition, Dr. Paxton regards it as an unmixed evil, and, when superadded to pulmonary tubercle, as tending seriously to aggravate the existing disease, by further abridging the areolar tissue of the lungs.

In the cases observed by the author of this paper, the retention of carbon arises in one of three ways: 1. During the reduction of animal power by lengthened years. 2. Where the existence of disease prevents both the reception of oxygen and the expiration of carbonic acid. 3. Where the individual lived in a situation with habitual insufficiency of oxygen. Another and potent cause of the presence of carbon in the lungs, briefly discussed, is its introduction from without, in the cases of persons living in manufacturing towns and in coal-mines. Of all these forms, the author affords beautiful coloured illustrations.*

PART II.—SPECIAL PATHOLOGY.

§ I.—*Diseases of the Nervous System.*

18. *Apoplexy and Heart Disease.*—One of the most generally received opinions connected with the subject of apoplexy, and other forms of cerebral disease, is their intimate association with disease of the heart, and more particularly with hypertrophy of the left ventricle. Dr. Walshe, in a clinical lecture, ventures to call this opinion in question, and upon grounds which appear sufficiently tenable. The connection between the two diseases has been assumed upon the strength of statistical evidence, by which it is shown that the heart will be diseased in about 46 per cent. of cases of apoplectic seizure. To this Dr. Walshe objects that, before these figures can be considered of value, it requires to be proved that the same proportion of diseased hearts would not appear in a given number

* Transactions of the Provincial Medical and Surgical Association, 1848.

of persons dead of other diseases after a certain age. An inquiry into this matter demonstrates that such, or nearly such, a proportion actually obtains. In order to give greater force to his rejection of the received opinion as a demonstrated fact, the author next examines the question in a converse point of view, or in what proportion persons having disease of the heart become subjects of apoplexy. For this purpose he makes use of the following number of cases, selected from different authors:—

	Diseases of heart.	Apoplexy.
Ravier	10	1
Louis	45	0
Blakiston	155	14
	<hr/> 210	<hr/> 15

So that $7\frac{1}{2}$ per cent. only of persons labouring under diseased heart for a greater or less number of years, become the victims of cerebral apoplexy. "From this rapid survey," Dr. Walshe continues, "of the connection of cardiac and cerebral diseases, what inferences can fairly be drawn? None other than that positive asseverations of the power of heart disease to generate brain affections, as a *demonstrated fact*, had better be avoided. On the other hand, I believe that it would be equally unsound to deny totally the existence of any such power on the faith of the numerical comparisons I have just instituted. These are the only comparisons of the sort obtainable at the present hour: but let us not shut our eyes to their serious imperfections. These imperfections are of different kinds. In the first place, some writers are so deeply prejudiced on the question at issue, that their facts cannot be received otherwise than with some quantum of distrust. Read the pages of Andral, and observe how determined he is to find the nexus of an hypertrophied left ventricle, and cerebral hemorrhage; read those of Rochoux, and note the eager partisanship with which he strives to disprove it. Do this, and I feel satisfied you will, with me, see the wisdom of receiving *cum grano salis* their general conclusions. In the second place, some writers put forward cases where no post-mortem examination took place; these are, under the circumstances, unfit to form elements in the discussion. Thirdly, who can for a moment suppose it to be at all likely that all varieties of heart disease shall have an equal tendency to produce cerebral congestion? That, for example, an hypertrophous left ventricle shall do the same violence to the minute cerebral vessels, if it play upon a constricted aortic orifice, as if it play upon a perfectly free one. Who can suppose that, where the radial pulse is small, feeble, unequal, tremulous from highly developed insufficiency of the mitral valve, the blood shall be propelled with excess of force into the small arteries of the brain? Far from this, the contrary appears so fair an hypothesis, that, as we have just seen, an experienced physician regards such insufficiency as an efficient cause of gangrene-like softening of the brain. The whole clinical history of mitral regurgitant disease points to pulmonary, and not to systemic congestion. And, *per contra*, the ascertained effects of tricuspid regurgitation give an air of probability to the view, that this variety of cardiac imperfection may, in reality, form the true link between congestive affection of the brain and the heart. Whether this be the fact or not, time will show. Meanwhile, I think there can be no question that it is deeply unsound to club together cases of such opposite functional tendencies as those we have been noticing, and regard them as a single mass, producing one single definite effect on the brain. Fourthly, an objection to some of the cases figuring in the returns I have given you, lies in the fact that the respective dates of the cerebral and cardiac diseases have not been clearly made out. And again, fifthly, the subject would require revision, were it only for the change recently effected in our knowledge of the morbid anatomy of enlarged hearts. All enlarged hearts were formerly set down as enlarged by muscular hypertrophy. We now know that the available muscular substance may be less than natural in such hearts, encroached upon and impoverished as it is by accumulating fat. And let us not appeal here to clinical experience to set aside the inference deducible from post-mortem investigation. True, the action, felt in the precordial region, of a

fat-infiltrated heart may be agitated and forcible; but violence of *impulsion* does not signify power of *propulsion*. In conformity with these views, the morbid valvular states (mitral and tricuspid) existing in our patient's heart may be considered mutually subversive in regard of ill influence on the brain.*

— In the "London Journal of Medicine,"† will be found an essay, by Dr. Richard Quain, on the relative frequency of apoplexy at different ages, in which the reader will find some valuable statistical information.

19. *Cerebral Affections simulating Impending Apoplexy*.—Dr. Marshall Hughes impresses upon the attention of practitioners that the symptoms which are frequently supposed to depend upon determination of blood to the head, and as commonly treated by the routine system of the lancet and purgatives, are frequently caused by a diametrically opposite condition of the cerebral bloodvessels, combined with some peculiar condition of the nerve-fibre, and therefore call for a sustaining and tonic course of treatment. The diagnosis of these cases is admitted to be, in many instances, very difficult; but Dr. Hughes considers that the true nature of the affection may generally be ascertained by attention to the following circumstances: 1st. The history of the case, and the particular circumstances under which the symptoms have arisen. 2d. The general appearance of the individual. Dr. Hughes has observed that the parties suffering from this affection are ordinarily either thin, pale, and delicate, as well as weak; or that, though short and stout, they are pale, flabby, and anæmiated. This, however, is far from being without exception, as he has seen persons suffering from it who presented in many respects the very appearance which is popularly believed to be that peculiar to apoplectic subjects, viz., a short, thickset person, a short bull-neck, and a red face. 3d. The pulse is either small, frequent, and feeble, and is sometimes accompanied with the peculiar thrill of hemorrhage and chlorosis; or, though large and apparently full, is very soft and compressible. Unless the affection is accompanied with diseased heart or arteries, it is never full and at the same time hard and incompressible. The extremities are usually cold, sometimes numb, and not unfrequently purplish from a languid circulation; at other times they are soft, moist, and flabby. The tongue may be loaded; but it is more frequently moderately clean, and more frequently still is morbidly clean, pale, expanded, and indented. 4th. The symptoms generally affect the patient while walking, or while in the erect or sitting posture; are not increased, but, on the contrary, relieved by lying down; and are often, in fact generally, most troublesome upon first rising in the morning. Ordinarily, though not universally, they are not increased by stooping. 5th. No heaviness, and no increase of symptoms, is experienced after a full meal. The individual is usually well while in bed. 6th. Depletory measures previously employed, though they may have apparently relieved the patient for the time, have been uniformly followed, in a short period (in a day or two at most), by a recurrence, and even an increase, of the symptoms, and have usually been adopted without relief. 7th. The patient has never found himself worse after a glass of wine or other stimulant, excepting perhaps from its immediate and purely stimulant effects; but, on the contrary, has usually been relieved, if he has ever ventured upon the experiment of taking it. 8th. In some cases, an anæmic murmur may be heard over the outer valves, or a venous bruit in the neck. These symptoms are important aids in diagnosis. Dr. Hughes properly insists upon the importance of testing the urine, as the co-existence of renal disease might involve a considerable modification in the treatment.‡

20. *Epilepsy—Treatment*.—Two of our indigenous plants have been recently recommended in the treatment of epilepsy—the *Scutellaria galericulata*, by Dr. Evans,§ and the *Cotyledon umbilicus*, by Mr. Salter.|| The former is given as an infusion (3ij to ʒviii) in the dose of half an ounce to two ounces. The cotyledon is used in the form of an expressed juice of the latter. Dr. Bullar also speaks favourably of it, and promises the publication of his experience.

[Respecting these remedies, we think it right to inform our readers that the cases given in illustration are too few in number to be worthy of much confi-

* Lancet, March 17, 1849.

† No. 1.

‡ Medical Gazette, April 20, 1849.

§ British American Journal, Dec. 1848.

|| Medical Gazette, March 2, 1849.

dence. We are disposed to agree with Dr. Marshall Hall, that there is no "medicine" specially adapted to the cure of epilepsy, but that the only rational treatment consists in a judicious employment of hygienic measures, including diet, exercise, &c.]

21. *Abscess of the Pituitary Body*.—Dr. Heslop reports the following rare and interesting case:—

J. H., an engineer, of active habits, was attacked with acute headache after dancing all night on February 10th, 1848. Previously to this, he had exhibited a remarkable tendency to sleep; if he sat down, he would immediately fall into a heavy slumber; but the sudden acute pain was the first symptom which attracted attention. After using some domestic remedies, the pain was much relieved, but it returned in consequence of error in diet. He became wild and restless, or at other times would lie in a state of semi-stupor, silent, and indifferent to everything. He on one occasion stripped himself, and evacuated his bowels in the centre of his room. Mercury was now given, and leeches and blisters applied; but, in spite of this, he fell into profound coma, and the pulse became intermittent, and fell to 40 in the minute. Wine was now given freely, and he rallied so much that recovery was confidently expected. Two symptoms remained of bad import: one of them was an almost total loss of memory; the other, loss of power over the sphincters. He was, however, well enough to go to Dublin, where he was placed under the care of Dr. Stokes. The progress of the disease was marked by emaciation, and further declension of the memory; the orbicularis of the right eye also became paralyzed; the acute pains in the head continued to the last. The immediate cause of death was an obscure attack of pleurisy in September.

Post-mortem examination. Body emaciated; membranes of the brain healthy; at the second pair of nerves was found a soft, dark-gray tumour, the size of a walnut, occupying the site of the pituitary body, and extending posteriorly and laterally; it contained a dark-red, purulent fluid. It filled up the entire outer peduncular space, extending backwards to the pons Varolii, and protruding forward to the fissure of Sylvius. The crura cerebri were pressed outwards. Underneath the tumour, a quantity of thin, reddish fluid was noticed. The bones, which formed the middle cerebral fossæ, were covered with small, sharp, osseous processes.*

22. *Tetanus*.—M. Petit has adduced three additional cases of the successful treatment of this disease by the inhalation of anæsthetic vapours. They were all of the traumatic form. These, taken in connection with others reported in our former volumes, exhibit the curative properties of ether and chloroform in a very encouraging light; the amount of success being indisputably greater than has arisen from any other mode of treatment.†

—An additional instance of the recovery from tetanus, under intoxicating doses of alcohol, is also recently reported. The case was that of a child who had received an injury of the finger. (For other cases, see "Abstract," Vol. I. 205.)

—A case in which symptoms of chronic tetanus originated in morbid excitability of the true spinal system, is narrated by Mr. Herapath. The source of irritation appeared to be in the alimentary canal, and the affection was removed by the use of powerful purgatives.‡

23. *Cerebro-Spinal Meningitis*.—In connection with the interesting cases mentioned in our "Abstracts" of the present volume (arts. 11 and 12), we may remark that M. Piorry has witnessed, at Corbeil, an epidemic similar to those observed at Strasburg by M. Forget, and in Ireland by Dr. Darby.§

24. *Paralysis of the Serratus Magnus*.—Two cases of paralysis of the muscle, similar to those detailed in a former volume (II. 165), have recently occurred in the practice of Mr. Choisy. The characteristic symptom is a wide separation of the scapulae, with tilting upwards of the inferior angles.||

25. *Convulsive Diseases*.—The pathology and treatment of convulsive diseases have been chosen by Dr. Todd, as the subject of the Lumleian Lectures for the

* Dublin Quarterly Journal, Nov. 1848.

† Revue Médico-Chirurgicale, Dec. 1848.

‡ Medical Times, March 10, 1849.

§ Gazette des Hôpitaux, March 8, 1849.

|| L'Union Médicale, Dec. 1848.

present year. Under the term convulsions, he refers to three distinct kinds of irregular actions—the choreic, the tetanic, and the epileptic.

The type of the first class is chorea itself; but the same form of convulsion is said to be seen in some particular gouty and rheumatic states, and in white softening of the brain.

The type of the second is tetanus; but the author places in the same class *trismus nascentium*, and *laryngismus stridulus*.

The third class includes general and puerperal epilepsy, and general convulsions of children. In proceeding to notice these phases of convulsion in detail, the lecturer commences with—

1st. *Chorea*.—Chorea is sometimes general, or may be acute, and terminate fatally in a few days, as in the interesting case given in our last volume (VIII. 32), but it is more commonly partial. Of the disease in this the more general form, Dr. Todd proceeds to lay down the leading features. He states that it is seldom symmetrical; that the tongue is protruded in a manner which may be almost considered pathognomonic; and that he has no doubt, if watched for, this peculiar projection of the tongue would be found to precede the more extensive affection. The choreic convulsion is, he also states, frequently succeeded by paralysis, which, when confined to one side, may be readily mistaken for hemiplegia, depending on diseased brain. In a few instances, paralysis precedes the convulsion, but it is then, in Dr. Todd's experience, accompanied by the peculiar thrust of the tongue.

Another interesting feature in chorea is the affection of the heart, first pointed out by Dr. Addison. This is, according to Dr. Todd, not evidenced by disturbance of rhythm, but of sound. The morbid sound may be either aortic or mitral, most commonly the latter. In seeking to determine the cause of this sound, he comes to the conclusion that it depends upon organic disease of the mitral valve, induced by latent endocarditis, which is the more feasible an opinion, that chorea and the rheumatic diathesis are in some manner frequently associated.

2d. *Tetanus*.—The points to which Dr. Todd directs attention in his second class of convulsive affections, are: 1. The little variation in the symptoms. 2. The fact that all the symptoms may occur without any appreciable lesion of the nervous system. 3. The common fact that the disease often appears endemically, as in the West Indies. 4. The general tendency to death by exhaustion and asphyxia.

3d. The third class is represented by *epilepsy*, at the general features of which the lecturer takes a rapid glance, as in the cases of tetanus and chorea. He touches also upon the convulsive diseases of children, in their similitudes to the epilepsy of the adult—that form of convulsions which supervenes upon the introduction or retention of poisonous matter in the blood, and the puerperal eclampsia. In reference to the second of these forms, he mentions the fact now generally known, that, when the liver or kidney is in such a state that the elements of bile or of the urine are not separated in their normal quantity, convulsive fits are very apt to occur. This is more likely to be the case in renal disease, and especially in the small contracted kidney of gouty habits.

Puerperal convulsions are divided by Dr. Todd into three classes: those which occur in plethoric primiparæ; those of anæmic women; and lastly, those which occur in women suffering from disease of the kidney, and which are accompanied by albuminous urine.*

26. *Compression of the Carotids in Headache, and other Cerebral Affections*.—This mode of treating pains in the head, which was some years ago introduced by the late Dr. Parry, of Bath, has recently been successfully resorted to by Dr. Augustus Waller, in various cases embracing neuralgic and internal pains in the head, hysteria, and epilepsy. He was first induced to try its effects on others, from having experienced relief from it in his own person while suffering from headache.†

* Medical Gazette, April 20.

† Psychological Journal, Oct. 1848.

§ II.—Diseases of the Respiratory System.

27. *Diagnosis—Vibration of the Thoracic Walls.*—By the term vibration, M. Monneret alludes to the oscillation of the walls of the chest, which is perceived by the hand while a patient speaks or sings. These vibrations are more distinct in the right side than in the left, and in the interior than in the posterior regions. The vibration is propagated from the larynx by the walls of the air-tubes, by the solid elements of the thoracic parietes, and by the air contained in the lungs. The larynx is the sonorous instrument, and the phenomena perceptible by the application of the hand, are caused by the propagation of the undulations of sound, through the agency of good conductors. By disease of the chest, the physical conditions of these conductors being modified, the pectoral vibrations undergo changes, which Dr. Monneret has studied for the purpose of discriminating from each other the various alterations of the respiratory organs.

The vibration is increased in pneumonia, and first stage of consumption; it is diminished in pleurisy, emphysema, and pulmonary excavations.

In pneumonia, thoracic vibration is invariably increased; and to that degree that, even when the signs furnished by auscultation and percussion are still of a doubtful nature, a positive diagnosis may be obtained—a circumstance peculiarly advantageous in the diseases of infancy, when auscultation is difficult, and its results questionable. The phenomena of vibration are also increased in pulmonary oedema—a fact testified in the last stages of disorders of the heart. In the first period of consumption, when the lung is condensed by the presence of crude tubercular masses, it often happens that auscultation furnishes only negative signs, or increased roughness of the respiratory murmur, so slight as to leave some hesitation in the mind of the observer. In such cases, says Dr. Monneret, the diagnosis is powerfully assisted by the application of the hand, whilst the patient speaks aloud, the vibration being invariably increased in the diseased regions. Again, in pleurisy, attended with the formation of plastic adhesions and false membranes, no fluid being exuded between the lung and the thoracic walls, the vibration caused by the voice is considerably augmented.

It is, on the contrary, diminished or abolished in pleurisy when liquid effusion has taken place. The increase or diminution of the morbid secretion is also marked by corresponding modifications in the transmission of sound to the hand. In pulmonary excavations of some extent, the vibration of voice is decreased, or altogether abolished; but, on the margin of the cavities, it is, on the contrary, increased by the condensation of the lung around the ulceration. In pneumothorax, Dr. Monneret has had four times occasion to study the vibrations of the walls of the chest, and in all cases he found them abolished in the regions corresponding to those occupied by the effusion of air. In pulmonary emphysema, also, the undulations of sound perceptible to the hand are diminished—a fact easily accounted for by the rarefaction of the tissue of the lungs.

Thus, the study of the vibration of the thoracic walls can be made available in the diagnosis of doubtful cases, and forms a valuable addition to the other physical signs of thoracic disease.*

28. *New Instrument for Percussion.*—Mr. Barker has invented an ingenious plessimeter, having a hammer attached to its edge by means of a spring, and moved by a lever, which can be depressed by the forefinger of the hand by which it is applied. The advantages afforded by this instrument are stated to be:—

1. The evenness and precision of the stroke.
2. The quickness with which corresponding parts of the chest can be percussed.
3. It can be applied to tender parts, as those denuded by a blister.
4. It can be made available for transmitted percussion. By this he means the sound of the stroke, as heard by the ear, applied to the chest.†

29. *Laryngitis—Edema Glottidis.*—Several cases have been recently recorded by Mr. Everitt,‡ Mr. Norman,§ Dr. Barron,|| and others, to illustrate the in-

* *Revue Médico-Chirurgicale*, Oct. 1848. † *Dublin Medical Press*, April 25, 1849.

‡ *Medical Gazette*, Feb. 9, 1849.

§ *Prov. Med. and Surg. Journ.*, Jan. 10, 1849.

|| *Dublin Medical Press*, May 10, 1849.

sidiousness with which the approaches of this fatal disease are sometimes made. It is well to be aware that a patient may complain only of trifling sore throat and hoarseness, and be in other respects in good health and spirits, and yet in the course of an hour or two die asphyxiated; the only appearance after death being infiltration of the cellular tissue surrounding the rima glottidis. In connection with this subject, we would direct attention to Dr. Gordon Buck's interesting communication, which we have given in a former page (art. 16).

30. *Asthma, Chloroform in.*—Mr. Beardsall has published three cases of asthma, in which the benefit of the inhalation of chloroform was rapid, and marked.*

31. *Chronic Bronchitis, Arsenic in.*—In long-standing cases of chronic bronchitis, with copious expectoration and rapid emaciation, M. Garin has given arsenic with success: the dose is $\frac{1}{2}$ gr.†

32. *Catarrh, Abortive Treatment of.*—Dr. Lockwood, of the U.S. Navy, speaks of a new mode of arresting catarrh, which he has practiced "more than a year," and which consists in penciling the interior of the nares with a solution of the nitrate of silver.‡ If Dr. Lockwood will consult one of our former volumes (Vol. III. p. 155), he will see that he has been anticipated by M. Tessier, who advised the same thing in 1845.

33. *Pneumothorax, Paracentesis in.*—In a communication to the Medico-Chirurgical Society, Dr. Hamilton Roe endeavours to show that this is not a necessarily fatal disease, and that paracentesis is the best remedy which can be employed for its cure. The author adverts to the fact that the disease arises from a great variety of causes, and that not unfrequently there is either no alteration of structure in the lungs, or so little as to warrant us in supposing that it might be cured. He relates two fatal cases that have come under his own observation, in which paracentesis was recommended by him, but not performed, and in which, after death, it was found that there was in one instance no perforation of the lung, and no disease of the lung whatever, while in the other the opening in the pleura was very small; and although four small caverns, and a small number of tubercles of inconsiderable size existed in it, there was no organic disease immediately fatal, and life might have been at least prolonged, had the lung been relieved from the pressure of the air in the pleura by the operation of paracentesis. The author then refers to several other writers, who have narrated similar cases, and especially to the thesis of M. Sausier, who has shown that the possible causes of pneumothorax are seventeen. The author himself arranges the varieties of cases under four heads: 1, Those where the air is secreted by the pleura; 2, those where it arises from decomposition of fluid; 3, the cases where it escapes from a distended or ruptured emphysematous cell; and 4, those where it issues from a fissure in the lung. The first three varieties are susceptible of cure, and the fourth is not necessarily fatal. After describing the symptoms distinguishing these different varieties of the disease, the author proceeds to show that the mere presence of air in the pleura is not a source of danger; that the air may, in some cases, be absorbed, and that it is, therefore, only where air is accumulated in such quantity as to cause great difficulty of breathing, that we are called on to remove it by tapping the chest. The operation, in order to be successful, ought to be performed before the lung has become carnified by compression, and the other lung congested. The objection that the air admitted from without will itself compress the lung, the author meets by saying, "that, if the wound made by the canula in tapping, be kept open, the lung, if healthy, will expand on being relieved from pressure, and may, if the air can escape as fast as it enters, not only come into contact with the costal pleura, but contract adhesions to it, and obliterate the pleural cavity." In support of this statement, he gives the particulars of a case observed and related by Mr. Benjamin Phillips, in which, by sloughing of the soft parts, the cavity of the pleura was completely laid open, in two intercostal spaces, to the extent of several inches, and where, "at every act of ordinary inspiration, the lung came into close contact with the ribs; at every

* Lancet, March 31, 1849.

† Revue Médico-Chirurgicale.

‡ American Journal of the Medical Sciences, Jan. 1849.

expiration, the lung retreated to the extent of half an inch from the ribs." The author then refers to the published reports of nineteen cases, in which paracentesis thoracis has been performed for pneumothorax, in ten cases, successfully; and, after observing that the question, whether the opening made in the operation should be closed, or kept open, is yet to be decided, but that it seems to him desirable to keep it open when the air enters the pleura through an opening in the lung, and to close it in the other cases—he concludes his paper by relating a case, in which the wound was left open with a favourable result.*

34. *Phthisis Pulmonalis*.—As we have stated in a former page, the second portion of Dr. Addison's work† is devoted to the pathology and therapeutics of pulmonary consumption; of this we now propose to give a short analysis.

Under the section *Semeiology*, the author gives a view of the anatomical structure of the lungs, in reference to the morphological changes which indicate the existence of disease, and then passes briefly in review the stethoscopic phenomena, which are so familiar to the practiced auscultator. The general symptoms are not detailed in a systematic manner, but their variety and importance are displayed in a series of illustrative cases.

In his chapter on the causes of phthisis, the author takes a more extensive range than is commonly done, investigating minutely the most minute derangements of health, in their connection with that ultimate degeneration of the entire system, of which he considers the pulmonary lesions as only a part. The peculiarity of the author's views, as we understand them, consists in his regarding tubercle, &c., as an insignificant part of the disease—the main part being those retrograde changes which may, according to him, be equally excited by inflammatory products, or those portions of lung which are rendered useless in the disease termed atelectasis pulmonum (see p. 200). These views are expressed in general terms in the following deductions:—

"1st. Anatomical changes remain after the cure of wounds and diseases, which possess more or less of permanency; and though not evolving symptoms, they affect the future health of the patient.

"2d. These anatomical states are *veræ causæ* of differences of constitution, because the aggregate expression of the whole cannot be the same when important parts are altered; and in the lung they are predisposing causes of consumption, because from a universal law, the nutrition of natural textures, in contact with unnatural states, is disposed, upon slight events, to go back to the general, rather than to keep up the special form."

The author's remarks on the treatment of phthisis are deserving of attentive perusal. The chief stress is, of course, laid on the prevention of the disease; but when formed, he believes that it may be arrested. A cure, i. e. removal of tubercle, closure of cavities, &c., he does not believe possible. He appears to have little faith in any of the reputed remedies for consumption; but advises the treatment of every case on its own merits, and on principles derived from a careful consideration of the antecedents of the pulmonary degradation.

—Dr. Madden, of Torquay, has recently published a treatise on phthisis, entitled "*Thoughts on Pulmonary Consumption*." This volume is divided into two parts, the first being devoted to the chemistry and histology of tubercle; the second to the consideration of the forms and varieties of its localization in the pulmonary structures.

In his account of the chemistry of tubercle, the author has availed himself of the researches of Simon, Preuss, and others, but has added nothing on his own part. This subject has already been amply treated of in our foregoing "*Reports on Chemistry*," by Dr. Day. The tubercle-cell is found by the author to be filled with granular matter, but to be destitute of nuclei; a fact which, he conceives, is negative of the opinion entertained by Dr. Addison, that they are merely metamorphosed epithelium-cells. Their anatomical situation he believes with Addison to be the intervesicular areolar tissue.

In a subsequent section, Dr. Madden enters minutely into the consideration of the physiology of nutrition. To be able to explain abnormal nutrition, it is

* Lancet, April 21.

† On Healthy and Diseased Structure, 8vo. 1849.

evidently necessary to understand the process in a state of health. This the author enables the reader to do at a very little expense of time. In his endeavour to explain the production of tubercle, he dwells at some length on the importance of the red globules, as vitalizers of the liquor sanguinis, and finding, from the analysis of the blood of phthisical patients, that it is deficient in these globules, he believes that we have in this a "very essential fact in the production of tubercle." That it is not all that is requisite, he is compelled to admit, from the fact that in chlorosis we may have deficiency of the red particles to a great degree, without any tubercular degeneration as a sequence.

Dr. Madden ranges himself with the large majority of pathologists who believe in the identity of tubercular and scrofulous disease.

The forms and varieties of phthisis acknowledged by the author are much the same as those of other writers. What is termed acute phthisis, he regards as either pneumonia in the scrofulous habit, or a peculiar form of bronchitis.

In his chapter on treatment, the reader will find the results of matured reflection. The author repudiates specifics, and trusts to a rational system of medication founded upon the cachectic nature of the disease. In the acute form, he advises antiphlogistics, but more cautiously administered than in the inflammation of healthy subjects. Of the various remedies for phthisis, he places the greatest confidence in cod-liver oil, but at the same time he deprecates its being given as a specific, insisting most judiciously on the necessity of the simultaneous employment of other rational measures, both therapeutic and dietetic.

35. *On Hæmoptysis as a sign of Phthisis.*—Dr. Parkes has recently turned his attention to the symptomatic value of hæmoptysis in phthisis pulmonalis, and compares his observations with those of Dr. Walshe. These fully confirm the general opinion as to the serious import of this symptom.*

36. *Antagonism of Phthisis and Intermittent Fever.*—This question is reviewed at length in a recent number of the "Edinburgh Medical and Surgical Journal." The first person in this country to notice the mutual incompatibility of the two diseases was Dr. Harrison, of Horncastle; subsequently, Dr. Wells read a memoir on the same subject, and, still later, Dr. Southey published a memoir, in which the testimony on either side is fairly weighed; still more recently, the question has been renewed by MM. Boudin, Horace Green, and Hellft.

The opinions expressed by these writers are various. Dr. Wells believed that he had established the point incontrovertibly; Dr. Southey, on the other hand, alleged that he had utterly failed to establish its truth. M. Boudin takes the side of Drs. Harrison and Wells, as will be seen by the following deductions:—

1st. The localities which generate intermittents are distinguished by the comparative rarity of pulmonary consumption and typhoid fever.

2d. The localities in which these latter diseases prevail are remarkable for the rarity and mildness of the intermittents contracted on the spot.

3d. Draining, while it causes the disappearance of miasmatic diseases, seems to dispose the organism to a new pathological condition, in which pulmonary consumption becomes a conspicuous disease.

Dr. Green, in his "Observations on the Influence of Malarious Atmosphere on the Prevention and Cure of Phthisis," adduces a considerable number of cases illustrative of the practical application of the above views; in several of these, the benefit derived from sending consumptive patients into malarious districts appears to have been indisputable, whatever may be the real explanation of the phenomena observed.

Dr. Hellft, whose essay on the Antagonism of Marsh Fevers and Consumption was published as lately as last year, takes the opposite side of the question, and, like Southey, refuses to admit the protective power of malaria. He bases his opposition on the fact that, in numerous localities mentioned by him, the two classes of disease are equally prevalent.†

37. *Cod-liver Oil in Phthisis.*—Confidence in the advantages to be derived from the exhibition of this oil in pulmonary consumption is becoming more

* Medical Gazette, March 30, 1849.

† Edin. Med. and Surg. Journal, April 1849.

generally diffused among the profession. It is not pretended that it has the power of *curing* the disease, but that it possesses a power of suspending its ravages, at all periods, to a degree not possessed by any other medicine, scarcely admits of doubt. We beg the particular attention of our readers to the paper by Dr. Williams which appears among our extracts, as it records the experience of a gentleman in extensive practice, and who has made pulmonary diseases an especial study.

We are still in want of the record of cases on a more extensive scale, and we have imposed upon ourselves the task of collecting and collating information on the subject. In this work we earnestly solicit the aid of our readers, who will do us an especial favour by furnishing us with notes of their individual experience.

38. *Inhalation of Carbonic Acid in Phthisis*.—The breathing of carbonic acid has been recommended by some Russian physicians, as a successful mode of arresting phthisis. This subject would scarcely be worth notice, were it not for the observation of Guillot (Abstract, Vol. I., p. 211), that the deposit of carbonaceous matter in the lungs operates as a check to the further deposit of tubercular matter.*

§ III.—*Diseases of the Circulatory System.*

39. *Treatise on Diseases of the Heart*. By Dr. HOPE.—This work has reached a fourth edition, in which the reader will find improvement both in arrangement of matter and in form. Certain omissions have been made, which the present editor has thought advisable, but these have been confined to subjects of controversial interest, no longer requisite, and to the plates. The latter will be regretted by many; but, when it is stated that by the procedure the expense of the work is much diminished, the disappointment will doubtless be found to be atoned for by the majority. The additions consist of notes and cases left in MS. at the time of the author's death. We consider it needless to say more in praise of a work which has long been considered the best of its kind in the English or any other language. It is only requisite to state, that the present edition, in the points alluded to, and in beauty of type, must be considered a great improvement upon its predecessors.†

40. *Diagnostic Value of Frémissement in Diseases of the Heart*.—It is a generally received opinion that the frémissement which is perceptible at the apex of the heart, and accompanies the diastole, is significant of narrowing of the mitral orifice. Professor Jaksch, of Prague, has ascertained the truth of this as a general rule, but has also met with cases in which it accompanied insufficiency of the aortic valves. It is therefore necessary, in forming a diagnosis, to have recourse to the characters of the pulse, which in aortic regurgitation is full and bounding, in contracted mitral valve, small, irregular, and intermitting. The pericardium sometimes gives rise to vibrations which may be mistaken to be of valvular origin, but they may be distinguished by a want of rhythm and regularity, and by their modifications under change of posture. M. Jaksch has met with vibrating frémissement under the following circumstances: 1. In narrowing of the aortic orifice. 2. In dilatation of the aorta immediately above the valves. 3. In dilatation and in true aneurism of the ascending aorta. 4. When the aortic orifice is obstructed by tendinous adhesions. 5. In insufficiency of one or more of the sigmoid valves. 6. In rupture of the cordæ tendineæ of the mitral valve.‡

41. *Polypiform Concretions of the Heart*.—Dr. Bellingham has published some observations on the above morbid appearance, in connection with two cases which came before his own notice.—After a careful description of the various forms of these concretions, and a detail of the symptoms, the author recapitulates his views in the following series of conclusions:

1st. That concretions occasionally form in the cavities of the heart, during

* Encyclograph. Médicale, Dec. 1848.

† Treatise on the Diseases of the Heart and Great Vessels; by James Hope, M. D. 4th edition.

‡ Vierteljahr: für die Pratische Heilkunde.

life, of such a size as to impede the action of the valves, to obstruct the passage of blood through this organ, and to occasion the death of the patient.

2d. That these concretions, although termed polypi, have no analogy whatsoever with polypi, either in appearance, composition, or mode of development.

3d. That certain diseases of the lungs or heart, as bronchitis, pneumonia, endocarditis, valvular disease, &c., sometimes owe their fatal termination to the formation of these concretions in the cavities of the heart.

4th. That the concretions which form during life in the cavities of the heart may consist either of fibrine or of lymph, or of lymph coated with fibrine.

5th. That the concretions composed of fibrine are most frequent upon the right side of the heart, but may occur on both sides; and that the concretions which consist of lymph, or of lymph coated with fibrine, are usually found only on the left side of this organ.

6th. That fibrinous concretions, whether they occur in amorphous masses, or in stratified layers, are deposited from the blood which circulates through the heart. That concretions composed of lymph, whether this forms the substance of the mass, or merely its nucleus, are deposited by the vessels which supply the heart itself with blood.

7th. That fibrine, whether it constitutes the substance of these concretions, or whether it is deposited in concentric layers in the sac of an aneurism, is perfectly unorganized, and perfectly incapable of becoming organized. That lymph, on the contrary, is an organizable substance, and quite distinct from fibrine, with which it is still confounded by some physiologists.

8th. That where pus has been found in fibrinous concretions contained in the heart, its presence is to be regarded as the result of phlebitis, not as a product of inflammation in a substance which is quite unorganized, and consequently incapable of undergoing such changes.

9th. That increased extent of dullness in the precordial region, confused or irregular action of the heart, intermission or irregularity of the pulse, or an abnormal murmur accompanying the heart's sounds, are not necessarily symptoms of the development of a polypous concretion in the cavities of the heart.

10th. That no means are known by which polypous concretions in the heart, once formed, can be dissolved; consequently, the administration of substances which render the blood more fluid, or which are supposed to be capable of dissolving them, can have no useful effect.*

42. *On Disease of the Heart and Large Vessels as a cause of Sudden death.*—The “Archives Générales” contain a series of papers by M. Aran, the object of which is to determine the exact influence of certain diseases of the heart and great vessels in the production of sudden death, and to ascertain what alterations of structure are most prone to be followed by that event. The principal divisions of sudden death from heart disease are those arising from rupture, and those without rupture, the relative proportions of which the author seeks to determine by statistical data. Of 202 cases of sudden death, he finds 88 cases with, and 114 without rupture. The 88 cases of rupture are thus distributed:—

Rupture of the thoracic aorta occurred in 45 cases.				
“	“	left ventricle	“	25 “
“	“	abdominal aorta	“	7 “
“	“	right ventricle	} each	3 “
“	“	left auricle		
“	“	pulmonary artery	“	2 “
“	“	both ventricles	} each	1 “
“	“	right auricle		
“	“	vena cava		

The author does not accord a separate consideration to each of these forms of rupture, but passes on to show the fallacy of the opinion which attributes death in rupture of the central organs of circulation to the hemorrhage which takes place. He makes it clear that, with the exception of certain cases in which rupture occurs into the large serous sacs, or into the mucous canals, the

loss of blood is seldom sufficient in itself to cause death. This event, he believes to be due to the embarrassment of the heart or lungs by the extravasated blood, as is seen more particularly when the hemorrhage takes place into the pericardium, when a few ounces are sufficient to extinguish life by impeding the heart's action.

The cardiac lesions producing death without rupture are thus distributed:—

Disease of the muscular substance	19
“ aortic valves	25
“ mitral valve	6
“ several together	3
Malformations of the heart	10
Disease of the aorta and pulmonary artery	17
“ coronary arteries	1
Pericarditis	4
Adhesion of the pericardium	9
Disease of the aorta and its valves	9
“ “ and other valves	6
Adhesion of the pericardium, with other lesions	4

113

The author studies each of these divisions separately; but, as the essay is not completed, we must reserve the remainder for a future volume.*

43. *Aneurism, Dissecting*.—An additional case is recorded by Dr. Peacock: as is usual, death occurred from rupture into the pericardium.†

44. *Aneurism of the Coronary Artery*.—The same writer reports a case of this uncommon form of aneurism, premising it with the account of the only two cases he is able to find: one published in the “*Bibliothèque Méd.*,” 1812; the other in the “*Archiv. Gén. de Méd.*,” 1843.

A man æt. 51, a butcher, admitted into the Royal Free Hospital, in December, 1847, labouring under influenza, formerly of irregular habits. When examined, he was much collapsed, with severe cough; pulse 144, feeble; tongue furred. Auscultation revealed the crepitation of the prevailing epidemic. He was cupped between the shoulders, and took ipecacuanha, with compound spirit of ammonia and paregoric. On December 4th he was slightly better, and for three days continued to improve, but he then became more torpid and feeble. A more stimulating treatment was substituted, together with a blister to the chest. On the 12th, he complained of pain in the left side of the chest, pulse 120, intermittent. There were loud, sonorous rhonchi; and in the region of the heart a peculiar sound, like that of beating egg with a spoon. This disappeared next day, when he died.

Post-mortem examination. In addition to emphysema of the lungs, the pericardium was found to be distended with sero-purulent fluid, with lymph of soft consistence. At the upper and outer part of the left ventricle, there was a protuberance the size of half a walnut, which was found to be an aneurism of the coronary artery. The cavity of the aneurism was filled with coagulum; the other artery was ossified.‡

45. *Aneurism of the Left Ventricle*.—A case of sacculated aneurism of the left ventricle has been recently met with, and described by Dr. Halliday Douglas. There were two distinct sacs, the size of a walnut, one empty, the other filled with a fibrinous clot. There were no symptoms, during life, to indicate this unusual condition of the ventricular walls.§

‡ IV—Diseases of the Chylopoietic System.

46. *Mercurial Stomatitis—Treatment by Creosote Gargles*.—Dr. Faulcon, U. S., speaks of the very decided and rapid benefit he has seen from this method of

* Archives Générales, Feb., March, 1849.

† Medical Gazette, Nov. 3, 1848.

‡ Edinb. Monthly Journal, March, 1849.

§ Ibid., Feb. 16, 1849.

treating profuse salivation. The proportions of the gargle are: creosote 3ss, sage tea Oj.*

—Dr. Maxwell informs us that he has been very successful in ptyalism with small doses of tartar emetic frequently repeated.†

47. *Liver, Abscess of, bursting into the Pericardium.*—The following exceedingly rare termination of hepatic abscess occurred to Dr. Bentley, by whom it is recorded:—

A man, æt. 29, came under Dr. Bentley's care, at the City of London Hospital for Diseases of the Chest, on the 29th of June, 1848. He was steward of a merchant vessel, and returned home from Madras and Trinidad in September, 1847. He was then quite well, and had been so during the sixteen years he had been at sea, except that he had had fever and ague, at Hong Kong, eight years before.

In December, he went down to Folkstone, and took cold, but was not materially indisposed until January, when he was suddenly seized whilst walking with severe pain to the right of the xyphoid cartilage, difficulty of breathing, followed by cough and expectoration. These symptoms increased, and the dyspnoea prevented his lying down. After six days, they had become so urgent that he was bled from the arm, and confined to his bed for six weeks; repeatedly leeches on the epigastrium and over the right shoulder-blade. About the beginning of March, he had recovered sufficiently to be able to walk out, and so continued for three months. In April, he had severe rigors and bleeding from the nose, which repeatedly recurred; he suffered from severe pain in the abdomen, at the lower part of the chest, and in the region of the heart, and had also profuse perspirations. From this time, he was unable to lie down in bed. He had no cough. In May, he had occasional vomiting of blood.

When first seen by Dr. Bentley, in June, he complained of pain in the spine, vomited his food, and had frequent retching when the stomach was empty; his bowels were confined; he was incapable of lying down in bed, but slept with tolerable comfort when propped up, and inclined somewhat to the right side. He had but little cough, but profuse perspirations, and was subject to occasional attacks of faintness; he was thin and much anæmiated. The resonance on percussion was defective over the whole chest, but especially dull on the left side; the respiratory murmur was natural over the whole extent of the right lung, although somewhat defective on the left. The costal cartilages in the præcordial region were unusually prominent, and the dull space was much extended. The extent over which the pulsation of the heart could be seen and felt was greater than natural, and the pulsation had a peculiar, wave-like motion; the pulse was regular, but feeble; there was no murmur with the heart.

There was no material alteration in his symptoms until the 13th of August, when, about six in the evening, he was suddenly seized with retching and excruciating pain in the pit of the stomach; these symptoms continued unabated until seven o'clock the following morning, when he died. Being all along doubtful as to the nature of the case, he was seen upon two or three occasions, whilst under Dr. Bentley's charge, by Drs. Jeaffreson and Peacock, who hazarded the conjecture that it might be abscess of the liver, circumscribed diaphragmatic pleurisy, or mediastinal abscess. The post-mortem was performed twelve hours after death.

The body was much emaciated; there was considerable prominence in the epigastrium, with a deep-seated sense of fluctuation on the left side of the xyphoid cartilage; prominence, also, of the lower part of the sternum, and of the lower sternal cartilage. Upon removing the sternum, the chest was filled by an enormously distended pericardium, containing not less than four pints of sero-purulent fluid. The heart was of natural size, and the attached and reflected pericardium was covered with a thin, pale, soft, and granular layer of lymph; at the apex, the reflected pericardium was extremely thin, and was protruded inwards by the pressure of an enormous abscess in the liver: at one point of the projecting portion, there was a small, nipple-like prominence, with

* Philadelphia Medical Examiner and Provincial Journal, May 2, 1849.

† Medical Times, Nov. 4.

an aperture in it, from which, when the left lobe of the liver was compressed, a little thick, purulent matter exuded. The left lobe of the liver was almost entirely occupied by a large abscess, bounded by a thick layer of very dense, almost cartilaginous tissue, and lined by rough and thick false membranes. The fluid in the cavity of the abscess was extremely thick, and pale yellow or whitish. The liver itself was very large, extending so far as the umbilicus, and quite over to the left side; much congested in the hepatic venous system, and adherent above to the diaphragm. The lungs were both compressed, the right attached by loose cellular adhesions, the left free; both sparingly crepitant, but free from disease. The heart was healthy.*

48. *Biliary Calculi*.—M. Martin Solon has revived Durand's treatment of biliary concretions. This consists in the exhibition of turpentine and ether, in a mixture consisting of two parts of the former and one of the latter. The dose is two drachms.†

—M. Capezzuoli draws attention to a species of concretion occasionally found in the intestinal canal, which has been erroneously considered as biliary calculus. A more minute examination has convinced him that they were pieces of solidified fat. The patients were in the habit of using oil freely in their food, portions of which had, he presumes, escaped the emulsionizing action of the pancreatic fluid. (See *Pancreatic Juice*, in the *Report on Anatomy*, in the present volume.)‡

49. *Pancreas, Symptoms of Disease of*.—Professor Siebert, of Jena, enters into an analysis of the symptoms of pancreatic disease in fifteen cases, which were concluded to be examples of that disease *by the method of exclusion*. These cases presented in common the following characters: 1. Pain in the epigastrium, deeply situated and increased on pressure, and in the exacerbations radiating towards the back and thorax. 2. Pain, oppression, and burning eructations or vomitings of watery matter at the time of the duodenal digestion, i. e. a few hours after taking food, accompanied either by constipation or diarrhoea, but with little alteration of the primary digestion, or of the state of the tongue and appetite. 3. Emaciation, followed sooner or later by anæmia, while the quantity of nutritious food consumed was considerable. 4. Pulsation in the epigastrium, often visible, increased by pressure, and occasionally accompanied by an arterial bruit, communicated to the stethoscope. This sign, when others harmonize with it, is supposed by the author to be pathognomonic of disease of the pancreas.

Professor Siebert has never found sugar in the urine of persons labouring under the above symptoms, nor has he generally found these symptoms to be present in diabetic patients. His views, therefore, afford no support to Bouchardat's theory, which ascribed the diabetic condition to disease of the pancreas.‡

On these opinions, the editor of the "Edinburgh Monthly Journal" remarks as follows: We need scarcely point out that the *method of exclusion* is a very slender protection against error in so bold an assumption as that of Professor Siebert. Without, however, adopting his speculative diagnosis too hastily, we think the above group of symptoms worthy of attention. Individually, they have long been known as characterizing that protean disorder, dyspepsia; and it is not at all improbable that they may be more or less closely connected with the derangements of an organ which every day teaches us more and more to regard as of the greatest consequence to the assimilative functions. The epigastric pulsation, to which such importance is attached in the paper before us, is a not unfrequent symptom of deranged digestion; but it certainly occurs, as we can attest from repeated observation, entirely apart from the other symptoms mentioned by the author, and apparently without any other organic cause. Dr. Parry, it is well known, ascribed it to the pressure on the aorta of faeces in the transverse colon; and various other theories of its production have since been

* Medical Gazette, Dec. 22, 1848.

† Gazette des Hôpitaux, March 10, 1849.

‡ Gazzetta Toscana, Nov. 1848.

§ Hæser's Archives, April 22, 1848; and Monthly Journal, May 1849.

given to the world. That of the author seems, on the whole, to have a good deal in its favour. "When we think," says he, "that the pancreas is supplied by numerous and large arteries springing from the aorta on which its head rests, and that it is furnished with nerves from the same plexus which surrounds the aorta, we may consider the pulsation in question as bearing the same relation to irritation of the pancreas, as the pulsation of the regions over an inflamed parotid, or a vascular struma (inflamed goitre)."

50. *Dysentery*.—Dr. Irving confirms the value of a practice first proposed by Dr. O'Beirne, of giving large injections, by means of a tube passed into the flexure of the colon. He observes that, in dysentery, much of the tenesmus and purging is kept up by fecal accumulation at the caput cæci, which cannot be removed by purgative medicine. He narrates cases which have been cured by the daily use of copious warm water enemata, without other means.*

51. *Obstruction of the Bowels from peculiar Causes*.—Dr. Donovan states that he has recently met several cases of obstruction of the bowels, occasioned by a large mass filling up the rectum, and incapable of being passed through the anus by the ordinary process of defecation.

He attributes the obstruction to the use of diseased potatoes, and states that he has met with several cases. In four, which occurred in one week in dispensary practice, he found in all the symptoms alike, and gives the history of one, as an example:—

"Patrick H— applied at the Skibbereen Dispensary. He was then labouring under severe tenesmus and bearing-down pain, and, to use his own words, 'had a bowel complaint on him for four days, and could pass nothing but red blood.' He further stated, that 'he could make no water, and that there was a lump in his seat.'"

This description of his disease, and the fact that his attention had been directed to the subject by a friend, Dr. Fitzgibbon, who detailed the particulars of two similar cases that occurred in his practice, a few days before, led him to make an examination; and he discovered, at the orifice of the gut, a large, solid mass. The parts around the anus were puffed out, and the sphincter was distended to the utmost.

It was evident that mechanical means could alone relieve the sufferer; and, on using the handle of a pewter spoon for the purpose, a large quantity of consolidated potato-skins, with some portion of the substance of the tubers, and coarse Indian meal, were dislodged. The retention of urine was immediately removed, and the other symptoms relieved, but recurred, and required for four successive days the same treatment, together with the administration of large enemata of warm water, which assisted in bringing down and breaking up the firm mass that filled the intestine.

These concretions were almost entirely formed of potato-skins, and were consequent on the use of diseased tubers, in which the peel and farinaceous substance of the potato are so intimately blended together, that it is impossible to detach the former in the ordinary way, and large quantities of the skins are consequently swallowed, and, accumulating in the bowels, form the obstructing masses described.

Dr. Donovan remarks: "It is of much importance that a correct diagnosis should be formed in this disease, as, from the similarity of some of the symptoms, it may be confounded with dysentery, and lead to very unavailing or even mischievous treatment.

"The straining at stool, the evacuation of blood from the ulcerated lining of the rectum, and the retention of urine, that may be mistaken for suppression, are all symptoms which are exhibited by the malignant dysentery that has raged for the last two years, and may lead to an incorrect diagnosis of the disease that I am alluding to; but there is one diagnostic character that, once observed, cannot be mistaken, and which clearly points out the nature of this complaint,—I allude to a very peculiar sour smell from the body of the patient, like that exhaled from fermenting potato-skins;—a substance used by weavers in the manufacture of coarse linens. Whenever this smell is recognized in cases exhibit-

* Edinb. Medical and Surgical Journal, Jan. 1849.

ing the other symptoms that I have described, an immediate examination of the rectum should be made, and mechanical means should be immediately employed to unload the gut, as any other plan of treatment would be perfectly useless.”*

‡ V.—*Diseases of Variable and Uncertain Seat.*

52. *Acute Rheumatism, Nitrate of Potass in.*—Dr. Basham, who confirms the value of this mode of treating rheumatism, founds his belief on the following facts: 1st, that in acute rheumatism, as in other inflammatory diseases, the most important changes in the composition of the blood are the increased quantity of fibrin, and the deficiency of the saline ingredients; 2d, that where this state of the blood exists, there is a special disposition to the deposit of fibrin, and the formation of adventitious tissues; while in diseases in which the fibrin is deficient, and the salts in excess in the blood, the blood does not coagulate, and hemorrhages of a passive character occur; and, 3d, that although, as his own experiments have satisfied him, saline solutions have not the power of dissolving coagulated fibrin, yet certain salts in solution, mixed with the blood at the moment of its escape from the body, possess the property of suspending or retarding the separation of the fibrin. He next inquires whether any therapeutic principle can be derived from these facts, and proposes the question, whether saline remedies, largely employed, may not suppress the tendency to the fibrinous exudation, or retard it, so as to give time for other remedies to diminish the proportion of fibrin present in the blood. With reference to this question, he alludes to the observations of several physicians on the use of nitrate of potash in acute rheumatism, and details his own experience of its effects. He gives one, two, or three ounces of nitrate of potass, largely diluted (in two quarts of water), in the twenty-four hours. In the majority of cases, no obvious effect is produced on the force or frequency of the pulse, the digestive functions, or the quantity of urine excreted. But the urine always acquires a high specific gravity, and nitrate of potass may be detected in it. The swelling, heat, and pain of the joints affected with rheumatism are relieved in a most marked degree, even when no other remedies are employed at the same time. There is a certain amount of exemption from cardiac complication; and cardiac inflammation, when present, is more amenable to remedies. In a case which the author relates, he examined the blood of the patient before the commencement of the saline treatment, and again after this treatment had been continued for some days. In the first instance it was buffed and cupped, the fibrin was in excess, and the salts were deficient. After the administration of the nitre there was no buffy coat, the proportion of fibrin had diminished, and that of the salts greatly increased. The author presumes, therefore, that, while the internal use of the nitrate of potass assisted to restore the proportion of the saline constituents, the other treatment employed tended to lessen the excess of fibrin. Some remarks of Mr. Gulliver have led the author to investigate the effects of the external application of saline matters to parts affected with rheumatism. His experiments have been principally made with nitrate of potass. In chronic rheumatism, he has used the iodine of potassium; and in gout, the bibasic phosphate of soda. He applies the saline substance by means of the spongio-piline, a portion of which, large enough to envelop the part affected, having been moistened with water, the salt employed is sprinkled in powder freely on the spongy surface; it is then applied to the part, and secured with a roller. In numberless instances, by this simple treatment, he has witnessed the most palpable and instant relief to the local inflammation. Constitutional remedies were employed at the same time, but the relief was proved to be due to the saline applications, by the fact that, where several joints were affected, only those were relieved to which the salt was applied. At the end of the paper, the author gives an abstract of 79 cases of acute rheumatism, showing the results of treatment, and other particulars.†

—M. Martin Solon is also a great advocate for the treatment of rheumatism

* Dublin Medical Press, Nov. 1848.

† Medical Times, Dec. 2, 1848.

by nitre. He carries the dose up to two ounces per diem, an amount which many might consider highly dangerous; but it must be remembered that the salt is given very largely diluted. The same testimony is also borne by M. Cornelian.*

—For an excellent *résumé* of the principal modes of treatment in acute rheumatism, we refer the reader to Art. 22 in the present volume. We also call his attention to Art. 23, in which it appears that lemon-juice is occasionally found available in the more chronic forms of the disease.

53. *Gout and Phthisis, reputed Antagonism of.*—Dr. Garrod has disputed the opinion entertained by some, that the gouty principle is antagonistic to the tubercular, and who have on this hypothesis recommended the endeavour to establish the gouty habit as a preservative against phthisis. The author shows the fallacy of the above opinion, by adducing a case directly in point, of a young man eminently gouty, who, nevertheless, became the victim of phthisis. The experience of the majority of practitioners will, we think, equally discountenance the opinion of antagonism between the two states of system.†

54. *Diabetes, on the Gastric Origin of.*—Dr. Macintyre has contributed a paper to the Medico-Chirurgical Society, in which he traces the connection now generally acknowledged, between diabetes mellitus and some morbid conditions of the organs of primary assimilation.

The author commences his paper with some general introductory remarks on the unsatisfactory results of anatomical researches in diabetes, which have hitherto thrown so little light on the nature of this obscure affection, that a theory founded almost solely on a consideration of the phenomena observed during life, in which the assimilating processes are supposed to be impaired or perverted, has, from the earliest times, received very general assent. Adopting this view of its proximate cause, he then proceeds to relate three fatal examples of the disease which fell under his own immediate observation, and in which post-mortem appearances were met with in the stomach strongly significant of that organ having been, at some period, subjected to a special morbid action. The first case was that of an adult male, in whom the disease was not recognized till about a year before the author was consulted. The symptoms were highly characteristic. Death took place under a state of obstinate constipation. On a post-mortem inspection, among other lesions, the left upper lobe of the lungs was found broken down in its centre into a softened purulent mass, more like the disorganization from unhealthy inflammation, than a tubercular vomica. The stomach was greatly dilated, and its walls very thin; its cardiac extremity presented a dark appearance, and its lining membrane was softened. The bloodvessels of this viscus were unusually large and turgid. The kidneys were much enlarged, and double their ordinary weight. The right freely admitted a wax injection; the left exhibited, under the microscope, the natural structure. The subject of the second case was also an adult male. He had been getting thin and weak for some months before he was seen by the author, and died, labouring under an extensive aphthous affection of the mouth and fauces, accompanied with symptoms of intense irritation of the stomach, pain at the epigastrium, eager craving for cold drinks, and incessant vomiting. The real nature of the complaint was not detected till two days before death, when the urine was found to be profuse, limpid, of specific gravity 1038°, and strongly saccharine. On inspection, the organ presenting the principal lesions was the stomach, which was remarkably capacious, and, on being lifted up for examination, gave way posteriorly at its large curvature, allowing the escape of a dark-coloured fluid into the abdominal cavity. Its walls around the rent thus caused were very soft, and throughout the entire splenic division reduced to extreme tenuity, being in some places almost diaphanous. The subject of the third case was a little girl, only five years old, who had been for some weeks under treatment in the country, for what appeared to be remittent fever, and was brought to town for advice, when the urine was found to be very copious, of great density, the specific gravity ranging between 1040° and 1045°, and abounding with

* *Annali Universali*, March 1847.

† *Medical Gazette*, Dec. 8, 1848.

sugar. The constitutional symptoms corresponded with the character of the urine, and the child sank rapidly, and died exhausted. On dissection, an unusual dryness of all the tissues was observed. The kidneys appeared to be perfectly sound. No tubercles could be discovered in the lungs, but a coffee-coloured fluid, to the amount of several ounces, occupied the lower part of the pleural sac. When this fluid was removed, the cavity of the chest was seen to communicate with the stomach by one large, irregular hole in the walls of that viscus, and several smaller perforations in the diaphragm. The openings in both corresponded exactly, but without any adhesion between the opposed surfaces. The structures bordering on the perforation were black, ragged, and thin, and the parietes of the stomach, throughout its whole splenic division, partook more or less of this attenuation. The fluid removed from the chest was inodorous, and found to consist chiefly of blood, epithelium, and textural detritus. After briefly remarking on the treatment of these cases, the author goes on to review the appearances found on dissection, dwelling principally on those observed in the stomach; viz., the extreme attenuation of the coats of the organ in all the cases, and the lacerations and perforation in two of them—conditions allying them to each other, and denoting, apparently, but different stages of a kindred disorganization. In considering the nature and import of these changes, the great question to be solved is, whether they are to be regarded as pathological lesions, or cadaveric changes. As respects the actual perforations in the last case, the author considers them to be post-mortem consequences. But though, under this view of their production, they might naturally be classed with the perforations or erosions which were attributed first, by John Hunter, to the digestive or solvent action of the gastric juice, he feels more disposed to rank them with those analogous changes which, since Hunter's time, have been noticed to occur in connection with various diseases, some of decidedly gastric character, but the greater number not primarily referable to the stomach. The facts thus brought into notice add much to the interest of the subject; and, considering the force of various objections urged against the opinion of the great physiologist, would seem to lead us to take a modified view of the theory of solution, and regard the successive changes from softening to attenuation, and from attenuation to complete loss of substance, as the work, not of a gastric secretion in a normal and healthy state, but as the effects either of that fluid in an altered or vitiated state, or of other products secreted by, or generated in, the stomach, and endowed with corrosive properties, which do not come into full play till after death, when the tissues are already enfeebled and wasted, and no longer defended by the vital forces. In diabetes, the sugar existing in the primæ viæ suggests a fertile source of products possessing most active qualities. Those which we are most acquainted with, are the lactic and oxalic acids, both of them hostile to the constitution, the latter eminently so. It is admitted, however, that, for the confirmation of these views and opinions, though they are entertained by high authorities, the evidence of demonstrative chemistry is still wanting. How far they are countenanced by the limited number of facts brought forward in the paper, the author leaves to be determined by future and more extended observations.

—In the discussion to which the reading of this communication gave rise, Dr. Copland mentioned that he had known several cases of diabetes which had been arrested by the exhibition of ox-gall and creosote.*

55. *Source of the Sugar in Diabetes.*—We may take the present opportunity of calling attention to a most important essay on the source of sugar in the animal economy, by Dr. Bernard, and one which we conceive will tend to a considerable modification in our views of the pathology of diabetes. The subject being important, we give the memoir in detail, as we translated it for the "Provincial Medical and Surgical Journal," in which the first English notice of it occurred.

The author commences, by noticing that sugar is not only extensively distributed throughout the vegetable kingdom, but exists also in animals. Vegetables do not find it ready made in the earth, but form it by some power of internal

* Reported in *Lancet*.

organization. The question which the author wishes to determine is, whether the same is the case with animals, or whether the sugar found in their bodies is exclusively the product of their vegetable ingesta.

The author, with this view, observes that the kinds of sugar which enter into the food of animals are: 1. Cane sugar, as is found in the sugar-cane, beet-root, carrots, &c. 2. Grape sugar, such as exists in grapes and other saccharine fruits. 3. Sugar of milk.

He does not, in this place, trace the distinctive characters of these forms of sugar; he states only that, as certain alimentary substances are known to furnish large quantities of sugar, we may consider them as the source of the sugar which we find in the blood, or other animal fluids. It is admitted that sugar is found in healthy blood after the ingestion of sugar, or matters convertible into sugar; but chemical facts teach us, on the one hand, that starch is the only principle which is convertible into sugar, and on the other hand, in the belief that the animal economy has not the power to originate a principle, but only to transform those which are presented by the vegetable kingdom. It has been denied that the animal organism can form sugar, the only power recognized being that of destroying and eliminating it; the author thinks that, in the present essay, he has succeeded in showing the fallacy of this belief.

First series of experiments.—It has been observed that, during the digestion of saccharine and amylaceous matters, the blood contains sugar, and it has thence been concluded that the sugar is furnished by the aliments. This conclusion is erroneous, as is seen in the following experiments:—

1st. Exp.—The author injected thirty grains of starch, dissolved in a pint of water, into the stomach of a rabbit which had eaten oats and carrots. Five hours after, the animal was destroyed, and some of the blood from the heart was collected. After coagulation, sugar was distinctly found in the serum.

2d. Exp.—A strong dog was killed five hours after eating jelly of starch. The serum of the blood drawn from the heart contained a notable quantity of sugar. The contents of the stomach were acid, and contained no sugar; those of the intestines were alkaline, and strongly saccharine.

3d. Exp.—A dog ate plentifully of sheep's head, and was killed seven hours afterwards. In the serum of the blood sugar was distinctly found. No sugar was found in the intestinal canal.

4th. Exp.—A dog was killed after fasting two days. Sugar was unequivocally found in the serum.

The above experiments were repeated several times, and always with the same results. The general fact established is readily seen; viz., that sugar is constantly present in the blood of animals, whatever has been the nature of their food.

Second series.—Whence is the sugar derived, in the case of the animals fed on meat, and in that which had not eaten for two days previous to death? This is the question, for the solution of which fresh experiments are required. It may be fairly presumed that the sugar was not formed in the heart, but had been transported thither from some other parts of the body. To determine more exactly the locality of its formation, the author performed the following experiments:—

1st. Exp.—A large, strong dog being killed, seven hours after a hearty meal of cooked meat and bones, digestion was found to be in full operation, and the gastro-intestinal circulation and chyliferous ducts fully distended with their respective contents. He obtained: 1st, some blood from the junction of the splenic vein, with the vena porta; 2d, some chyle from the thoracic duct; 3d, blood, as before, from the cavities of the heart. He then carefully separated the contents of the stomach and bowels, and tested each separately for sugar, with the subjoined results.

1st. The alimentary matters of the stomach and small intestines had an acid reaction, and afforded no evidence of the presence of sugar.

2d. The milky serum afforded by the coagulation of the chyle was also destitute of sugar.

3d. The blood of the vena porta being allowed to coagulate, the serum was

slightly opalescent and alkaline. The author distinctly ascertained the presence of a large quantity of sugar.

4th. The blood from the heart also presented sugar, but in less abundance.

The experiment was repeated several times, and with always the same result, but without the author being able to comprehend how the portal blood should contain so large a quantity of sugar, while none existed in the small intestines. Reflecting, however, that this matter must be derived from some neighbouring viscus, he proceeded as follows: Having quickly destroyed a dog which had some hours since fed on matters destitute of sugar or fecula, he opened the abdominal cavity, and placed ligatures—1st, on the branches of the mesenteric veins, close to the small intestines; 2d, on the splenic veins, close to the spleen; 3d, on the pancreatic veins; 4th, on the trunk of the vena portæ as it entered the liver. He then collected blood from each of these sources, and examined it. 1. Sugar was not found in the blood of the intestines, nor in their contents. [The original states that sugar *was* found, but this is evidently an error of the press, as appears from the context.—*Trans.*] 2. Sugar was not present in the blood, either of the splenic or pancreatic veins. 3. The blood of the portal veins contained a large quantity of sugar, as did also the tissue of the liver itself.

It was thus made evident that the liver was the source of the saccharine matter. But it must be asked, How is it that sugar is found in the portal veins? for supposing it to be formed in the hepatic glandules, it should be carried into the general circulation by the hepatic veins, and not flow back into the portal branches. This reflux is, in the author's opinion, easy to be understood; for, in fact, the circulation in the porta is mainly effected by the pressure of the abdominal parietes during life; if, therefore, the pressure be removed, as in opening the abdomen, there would immediately be a reflux from the absence of valves in the portal system.

It is thus ascertained, by the above experiments, that sugar is found in the liver, and is carried into the general circulation by the blood of the hepatic veins, the reflux into the porta being accidental; but the author regards this discovery to be so important, that he thinks it right to state the processes employed in the investigation, in order that others may confirm or confute the conclusions by following in his footsteps.

Tests for sugar in the liver itself.—A portion of liver is to be beaten in a mortar, and then boiled in a small quantity of water, and filtered. The filtered liquor possesses all the properties of a saccharine fluid. It becomes darker on boiling with liquor potassæ, and it reduces the double tartrate of potass and copper. If yeast be added at a certain temperature, fermentation ensues; if the fluid be distilled after fermentation, alcohol may be obtained. The attempt was made to procure sugar in substance by operating on large quantities of liver, but, although a fluid of syrupy consistence was obtained, crystallization did not take place. The recognition of sugar in the blood is a very simple affair; the blood is allowed to coagulate, and the serum placed in a tube furnished with a stopper; to this is added a sixteenth in bulk of the tartrate of copper and potash, and boiled, when a quantity of the salt is reduced, proportionate to that of the sugar present. By this process the smallest traces of saccharine matter may be detected. Both in this test, as well as that by fermentation, it is necessary to operate on the serum while it is fresh, as sugar is rapidly decomposed spontaneously.

We have now traced the sugar of animals to the liver, but we have further to determine whence it is derived. Two suppositions may be entertained; either it results directly from a transformation of certain elements of the liver, or it is derived from the food. It may be said, in fact, that the animals which had been fed exclusively on animal food, or starved, might have eaten fecula or saccharine food the few days previously, and that the sugar thence derived had accumulated and been detained in the liver; and it might be added, in support of this view, that the liver is known to retain arsenic and other poisons for a length of time. Without actually denying this view, the following experiments would seem to oppose it:—

1st *Exp.*—A full-grown dog was starved for eight days, and then fed abund-

antly on cooked meat for eleven days; after this he was destroyed. The blood contained an abundance of sugar. This experiment was repeated several times, and certainly it would appear probable, that sugar derived from food, given antecedently, would have been eliminated after a lapse of nineteen days.

2d. *Exp.*—A rabbit, after a meal of carrots, was subjected to the division of the pneumogastric nerves. He was found dead seventeen hours after. *No sugar was found in the blood or liver.* This experiment was repeated with similar results. In both animals the bile, which is generally alkaline, was found to have a distinctly acid reaction. This effect of division of the pneumogastric nerves is remarkable. As a further proof that sugar is found independently of food, the author states that he has found it in large quantity in foetal calves. From the above facts the author draws the following conclusions:—

1st. That diabetic sugar is a normal ingredient in the blood and liver of animals.

2d. That the formation of sugar takes place in the liver, and independently of saccharine or feculent food.

3d. That this formation of sugar commences before birth.

4th. That it is allied to a state of integrity of the pneumogastric nerves.

56. *Bread for Diabetic Patients.*—It is generally admitted that amylaceous matter, in any quantity, is injurious to diabetic patients; and attempts have therefore, at various times, been made to find a substitute for bread sufficiently agreeable to the patient. Dr. Percy has succeeded in finding this desideratum in the following recipe, in which the ligneous matter of potatoes replaces the bran which enters into the bread, recommended by Dr. Prout. (See Ed. 5th, p. 44.)

Take the ligneous matter of sixteen pounds of potatoes, washed free from starch; three quarters of a pound of mutton suet, half a pound of fresh butter, twelve eggs, half an ounce of carbonate of soda, and two ounces of dilute hydrochloric acid. This quantity to be divided into eight cakes, and in a quick oven, baked until nicely browned.

It is, as must be obvious, an expensive article, but with many diabetic patients this will not be an object of consideration. It is somewhat improved in taste by being slightly toasted. At first, gum Arabic, in sensible quantities, was introduced into this bread, on the ground of the assertion of Professor Graham, that, when that substance is taken by a diabetic patient, the proportion of sugar evolved from the system is not thereby increased, and that, consequently, it might probably supply matter for pulmonary oxidation. However, it was found that it rendered the bread tenacious and disagreeable, so that its use was subsequently abandoned.

§ VI.—*Materia Medica and Therapeutics.*

57. *Therapeutic Value of Warm Water and Vapour Baths.*—A very comprehensive résumé of the present state of knowledge respecting the medicinal effects of water and vapour baths has been written by Dr. Kneeland, and may be consulted with advantage by those who wish to know what can be done with hot water and steam.*

58. "*Marteau de Mayor.*"—This is the original name of the instrument used by Dr. Corrigan, in his operation of "firing." We have already mentioned our own experience of its effects in favourable terms. Confirmation of its merits is also given by Dr. Day, in his work previously alluded to. Dr. Kneeland gives the following description of its form and effects:—

"The instrument is a hammer with a handle of wood; is plunged into boiling water; when heated, this is applied to the skin; the pain is acute, and the skin is discoloured and sunken; there is a true eschar. With water at 176° Fahr., an eschar is also formed, if the hammer be large; at 158° a phlyctena is formed, and, when the epidermis is raised, a kind of false membrane is seen, which is a superficial eschar of the dermis; as albumen coagulates at 158°, when this degree of heat is applied to the capillaries of the dermis, the albumen is coagulated, and becomes a foreign body or an eschar. To determine if

* American Journal of the Medical Sciences, Oct. 1848.

any of the elements of the dermis were disorganized below 158° , M. Trousseau commenced the application of the hammer at 122° , and gradually ascended to 158° . At 122° the hammer caused rubefaction, which sometimes lasted an hour, if the hammer were kept in contact with the skin till it cooled. At 131° the pain was severe and the rubefaction permanent. If, when the hammer was slightly cooled, another was applied at the same temperature, a bulla was formed, without disorganization of the dermis. At 140° the pain was hardly supportable; a single application produced vesication, repeated application caused a superficial eschar. At 150° , by repeated application, an eschar formed, for, though albumen does not coagulate at this heat, fibrin condenses and contracts at a much lower temperature. To recapitulate: the hammer of Mayor produces an eschar even as low as 158° Fahr.; repeated application at 150° produces superficial mortification of the dermis, and always causes vesication: between 130° and 150° there is vesication usually without mortification."

[The instrument which we had manufactured in 1845, the date of Dr. Corriگان's communication, consisted of a circular button, the size of a shilling, made of polished steel, to which was attached a shank of the same material, two inches long, and slightly arched from the top of the button. The other extremity was inserted into a wooden handle also about two inches long. The button is to be dipped in hot water, or held in the flame of a candle till the fingers placed on the shank cannot bear the heat, when it is to be immediately applied rapidly to the part affected.]

59. *Congelation as a Remedy*.—Dr. James Arnott, whose ingenious contrivance for the application of heat and cold in therapeutics we noticed in Vol. VII. (p. 209), has called attention to the value of a degree of cold approaching congelation. He ridicules the idea of gangrene or reaction, the fear of which has generally operated against the employment of ice, &c. He was led to doubt these consequences, except in cases of prolonged application of cold, by observing that when intense cold had been used to remove sensibility previous to operation, the wound appeared to heal more favourably than under ordinary circumstances. In the first article in the present volume, the reader will find that the author has not hesitated to treat erysipelas in this manner; he has also seen it very serviceable in obstinate cases of prurigo pudendi.*

60. *Electricity and Galvanism*.—In contrast to the favourable account of the medicinal use of electricity in its various forms, given in our former volumes, by Dr. Bird, Mr. Wells, and others, we have on the present occasion to notice a paper by Dr. Bence Jones, placing the result of his experience of electro-magnetism in various forms of paralysis in a very unsatisfactory light. In the majority of the cases operated upon, no benefit was derived.†

[From the high character which Dr. Bence Jones bears as an acute observer and philosophical physician, great weight may reasonably be attached to his opinions; but it is right to remind him that negative observations are, after all, worth but little. He may have been unfortunate in his selection of cases, and we know that when the paralysis depends on existing organic disease, no useful results can be anticipated from electricity in any of its forms; but, as Dr. Golding Bird has remarked, on the contrary, mischief may accrue. Our own opinion is, that it is an agent which is as yet scarcely sufficiently appreciated in the treatment not only of overt disease of the nervous system, but of functional derangement of various organs, in the causation of which the nervous system does not take a distinctly manifest part.]

—Mr. Tuson, on the other hand, has recorded observations of a very favourable kind, respecting the benefit of electro-magnetism in certain local neuralgic affections, the consequence of injury.‡

61. *Chloroform*.—We have but little additional information to give respecting the medical employment of this agent. It has been given internally in several diseases, as in cholera, in the vomiting of pregnancy, and of renal disease, &c., with variable benefit. Dr. Hartshorne gives cases of neuralgia relieved by doses of ʒj; as also of colic. He adds it likewise to cough mixtures with advantage.¶ [As a local application, we have tried it several times in severe

* Medical Gazette, Dec. 1, 1848.

† Medical Times, Feb. 24, 1849.

‡ London Journal of Medicine, No. 2, 1849.

§ Amer. Journ. of the Med. Sciences, Oct. 1848.

neuralgia; it succeeds in allaying the pain for a time, but the burning sensation, in the first instance, is next to intolerable.]

62. *Collodion*.—We have, at a former page, given so full a summary of the medical uses of this article, that little requires to be added in this place. The discovery of collodion is disputed by Schonbein, the inventor of the gun-cotton, who states that he long since recommended for surgical use a fluid which he termed "Liquor constringens," or ether glue, and that it had been employed in Switzerland three years previous to any notice of it in America.*

— In diseases of the skin, Mr. Startin has not found collodion so generally useful as was at one time thought probable that it would be; in some forms he has found it prejudicial. Our own experience is similar.†

63. *Cod-liver Oil*.—This medicine maintains its credit in the treatment of pulmonary phthisis, and of various forms of scrofulous and rheumatic disease. Of its advantages in the former we have accumulated numerous irrefragable proofs, which it is our intention to publish as soon as we can collect the results of the experience of others. As its nauseous flavour is frequently an insurmountable objection to its use, we subjoin a few formulæ, by which it can be rendered more palatable.

1. R. Ol. jecoris aselli ʒj;
Solut. potassæ carb. ʒij;
Syrup aurantii ʒj;
Ol. caryophyll. ℥ iv.

Dosis coch. parvum, bis in die.

2. R. Ol. jecoris aselli;
Syrup. aurantii;
Aquæ anisi, āā ʒj;
Ol. carpophyll. ℥ iij.

Coch. magnum, unum pro dosi, ter in die.

3. R. Ol. jecoris aselli ʒviiij;
Pulv. acaciæ ʒj; fiat emulsio et adde
Syrup. aurant. ʒj;
Sp. menth. pip. ʒij.

M. Coch. magnum, unum pro dosi, bis in die.

We have also found a good way of disguising the taste, in ordering it to be shaken up with hot milk, or floated on hot coffee.

64. *Chemical Characters and Tests for Cod-liver Oil*.—The following account is from a paper on the subject by Dr. Pereira:—

In general, continental writers distinguish three varieties of cod-liver oil, one white or pale yellow, a second brownish-yellow, a third dark brown. But between the finest pale yellow or almost colourless oil, and the dark brown cod-oil used by carriers, there is an almost infinite variety of shades, so that no absolute difference can be founded on colour only.

De Jongh found the principal constituents of these oils to be *oleate* and *margarate of glycerine*, possessing the usual properties. But they also contained *butyric* and *acetic acids*, the principal constituents of the *bile* (bilifellinic acid, bilifulvin, and cholic acid), some peculiar principles (among which was the substance called *gaduin*), and not quite one per cent. of *salts*, containing iodine, chlorine, and traces of bromine. Moreover, he found that the oils always contained free *phosphorus*.

From De Jongh's analyses, it would appear that the *pale* oil is the richest in oleic acid and glycerine—that the *brown* oil contains the largest amount of margaric, butyric, and acetic acids, and of the substances peculiar to cod-liver oil—and, lastly, that the *pale brown* oil is richest in iodine and saline matters.

Considerable importance has been given to the fact that cod-liver oil frequently or usually contains both *iodine* and *bromine*. To the presence of one or both of these substances has been ascribed the whole or part of the remedial efficacy of the oil. A little consideration, however, would be sufficient to prove that their therapeutical agency must, if any, be exceedingly small. The

* Lancet, March 17, 1849.

† Medical Times, Dec. 6, 1848.

proportion in which they exist in the oil is inconstant, though in all cases very small. Moreover, beneficial effects have been produced by the use of the oil, which neither iodine nor bromine are capable of producing.

The largest amount of iodine found in genuine oil is less than 0.06 per cent. If the amount obtained be larger than this, fraud may be suspected. It is said, by Dr. Martiny, that some dishonest druggists have introduced iodine into the oil for the purpose of augmenting its commercial value. Nay, it is stated that an artificial cod-liver oil has been made by combining iodine with common fish or train oils.

The proportion of *bromine* was estimated in conjunction with that of chlorine, as the quantity was too small to admit of accurate separation. Together, their amount in the pale oil was 0.14 per cent.

In the same analysis, the proportion of *phosphoric acid* was 0.09, and of *phosphorus* 0.02 per cent.

The characters by which we judge of the genuineness, purity, and goodness of the oil are partly physical, partly chemical.

The physical characters are colour, odour, and flavour. The finest oil is that which is most devoid of colour, odour, and flavour. The oil, as contained in the cells of the fresh liver, is nearly colourless, and the brownish colour possessed by the ordinary cod-oil used by curriers is due to colouring matters derived from the decomposing hepatic tissues and fluids, or from the action of air on the oil. Chemical analysis lends no support to the opinion, at one time entertained, that the brown oil was superior, as a therapeutical agent, to the pale oil. Chemistry has not discovered any substances in the brown oil which could confer on it superior activity as a medicine. On the other hand, the disgusting odour and flavour, and nauseating qualities of the brown oil, preclude its repeated use. Moreover, there is reason to suspect that, if patients could conquer their aversion to it, its free use, like that of other rancid and empyreumatic fats, would disturb the digestive functions, and be attended with injurious effects.

Of the chemical characters which have been used to determine the genuineness of cod-liver oil, some have reference to the iodine, others to the gaduin or to the bile-constituents. It was already stated that some fraudulent persons are said to have admixed iodine (either free iodine or iodide of potassium) with train oil, to imitate cod-liver oil. The presence of this substance, when mixed artificially, may be readily detected by adding a solution of starch and a few drops of sulphuric acid, by which the blue iodide of starch is produced; or the suspected oil may be shaken with alcohol, which abstracts the iodine.

Sulphuric acid has been employed as a test for cod-liver oil. If a drop of concentrated sulphuric acid be added to fresh cod-liver oil, the latter assumes a fine violet colour, which soon passes into yellowish or brownish-red. Some samples of oil produce at once the red colour, without the preliminary violet tint. It has been erroneously supposed by some persons that this violet colour was due to the evolution of iodine by the action of the acid on an alkaline iodide contained in the oil. If that were the case, the presence of a little starch-paste would be sufficient to convert the violet into an intense blue colour; which is not the case. The coloration, in fact, depends on the action of the sulphuric acid on some one or more organic constituents of the oil, and the following facts lead Dr. Pereira to infer that it is in part due to the presence in the oil of one of the constituents of the bile. Dr. Pereira then enumerates several facts in favour of this view. He concludes:—

“It follows, therefore, from what has been stated, that, although oil of vitriol is a test for liver oils, it does not distinguish one liver oil from another, for it reacts equally with the oil of the liver of the ray and with the oil of the liver of the common cod. Neither does it distinguish good cod-liver oil from bad, for it produces its characteristic reaction both with common brown cod-oil, and with the finest and palest qualities. But it serves to distinguish oil procured from the liver, from oil obtained from other parts of this animal.”*

65. *Action of Tartar Emetic.*—M. Bonamy has recorded some careful observations on the action of tartar emetic, which, though offering nothing new, are

* Pharm. Journ., 1848.

important on account of the greater precision they give to our existing knowledge.

From a table, based on twenty-five observations, in which the pulse was examined before and after the use of the drug, we find that, in twenty-three cases, the diminution in the number of pulsations observed on the day succeeding the first administration, was 15, 30, 10, 24, 40, 3, 20, 8, 10, 5, 24, 23, 18, 13, 23, 12, 10, 15, 10. In the other two cases, there was no change in the frequency of the pulse. On the second and third days, the slowness of the pulse was generally more marked.

Great diversity of opinion prevails in relation to the diaphoretic action of tartar emetic. Of fifty-five observations, M. Bonamy found the cutaneous secretion augmented in four cases only. He considers diaphoresis, therefore, an accidental effect of tartar emetic, probably occasioned by the sickness and vomiting, and not by the remote action of the drug. He does not show, however, that vomiting was present in the four cases alluded to.

M. Bonamy regards the marked sedation of the nervous powers, which ensues from the use of tartar emetic, as an indirect effect, consequent on the weakening of the circulation.

The author's observations on the therapeutic properties of tartar emetic, need not detain us. They confirm the almost universal opinion of its value in pneumonia.

In acute rheumatism, he found its beneficial action much less constant and less marked than in pneumonia. There is nothing new on its use in other diseases.

Is the establishment of tolerance necessary to the efficient therapeutic action of tartar emetic? M. Bonamy replies to this question in the negative, and maintains that, in many cases where he could not obtain tolerance, the efficiency of the drug was not the less marked. He thinks that, as an antiphlogistic, it is most usefully exhibited in frequent small doses, not exceeding the fraction of a grain.*

66. *Iron and Alumina, New Salt of.*—Sir James Murray has described a new combination of iron and alumina, which he considers of great superiority in the treatment of chronic diarrhoea, dysentery, and common cholera; also in debilitating mucous discharges, such as fluor albus, and in the colliquative looseness and perspirations of consumptive or hectic patients.

From the properties of iron in destroying white-blooded animals, this remedy is a valuable vermifuge. Its use corrects that peculiar condition of the intestinal canal which precedes and promotes the generation of worms.

Being well calculated to restore a more healthy tone to the mucous tunics, it soon removes the relaxation and vitiated secretions of the alimentary lining membranes. Occasional purgatives must be employed during its use as a vermifuge. Externally, it is a powerful styptic, when employed to arrest bleeding from the nose or leech bites. Its use has been attended with the best effects in the sore throats of scarlatina, and also in diphtheritis. The solution of this salt is the best gargle in relaxation of the uvula and tonsils, and as a collyrium. It abates salivation, improves the appearance, and prevents the fetor of foul or flabby ulcers. Injections of the salt are very effectual in excessive hemorrhages.

This salt, which he terms bisulphate of iron and alumina, is easily made by treating bicarbonated solution of soft iron and carbonated solution of pure washed alumina with sulphuric acid, after separating the arsenic and other ingredients which are too often found in the vitriolic acid of commerce.

The dose is from five to ten grains in aromatic water.†

67. *Indole of Palassium in Saturnine Affections.*—Professor Dumas read, for M. Melsens, an abstract of a memoir on this subject. The treatment proposed by the author rests upon the principle of rendering soluble metallic substances which might otherwise remain in the system, by associating them with another substance which is readily eliminated by the organs of secretion. M. Melsens

* *Etudes sur le Tartre Stibié*, Paris, 1848; and *Monthly Journal*.

† *Dublin Medical Press*, March 14, 1849.

remarks, that the insoluble compounds resulting from the combination of mercurial salts, and the contents of the digestive organs, dissolve in hydriodate of potass, and that the great facility with which this salt is rejected, may induce a hope that the poison will also be eliminated at the same time. M. Melsens asserts, that the same solubility in hydriodate of potass exists in salts of lead. Sulphate of lead, for instance, exhibited alone to a dog, produces death in a very short time; but no accident whatever is observed if the hydriodate of potass is taken together with the saturnine sulphate. In cases of mercurial palsy, related by M. Melsens, the symptoms yielded to the iodide of potass, and mercury was detected in the urine during the exhibition of this drug. But as it is by facilitating the absorption of an insoluble substance contained in the intestine that M. Melsens endeavours to produce its elimination, the method is not altogether without peril, and it is only in very small and gradually increasing doses that he recommends the use of the hydriodate of potass.*

68. *Sulphate of Phyllerine*.—This is a new alkaloid, recently added to the list of febrifuges, and obtained from the *Phylleria latifolia*. Dr. Sacheli has experimented with doses of twelve to fifteen grains, which he has found extremely valuable in intermittents.

69. *Spigelia Marylandica*.—The powers of this drug as an anthelmintic, and in the pruritus ani which attends the presence of worms, is attested by Dr. Koreff. The root is the medicinal part of the herb, and is given in the form of infusion—3iss to the pint, sweetened with manna.†

70. *Charcoal in Gastrodynia*.—This appears to be one of those remedies which, without obvious reasons, have been subject to alternate favour and neglect of physicians. M. Belloc, a French military surgeon, has resuscitated its use in a memoir, of which we proceed to give some account. It appears that he first tried it in his own case, and was astonished at the benefit he received, not only in the relief of his dyspeptic symptoms, but in the removal of habitual constipation, to which he was subject. He subsequently exhibited it in numerous cases which he records, in some of which bismuth, iron, and lead utterly failed.

His method of preparing the charcoal is as follows: He takes shoots of three or four years old, of which the bark has not been injured (the poplar is preferred). These are cut into appropriate lengths, and heated to a white heat in closed vessels. The charcoal is then allowed to soak for several days in cold water frequently renewed, after which it is dried, and is then fit for use. It is given in a moist powder, in doses of a dessertspoonful after each meal. Its action on the stomach is described as agreeable, increasing the appetite, and removing the eructations which form so disagreeable an accompaniment of impaired digestion. It also speedily removes the gastrodynia, and insures a regular action of the bowels.‡

71. *Nux vomica in Diarrhoea*.—Dr. Nevins has alluded to the benefit derived from the exhibition of nux vomica in pauper patients labouring under exhausting diarrhoea. His formula is: Alcoholic extract of nux vomica gr. ss; rhubarb gr. ss; saccharine carbonate of iron gr. j; blue pill gr. ss; opium gr. ½; in a pill three times a day. He attributes the benefit derived to the action of the nux vomica, in stimulating the nervous power of the intestines, and thus enabling their lacteals to absorb the nutriment from the food. At the same time, the small doses of blue pill and rhubarb improved the secretions, and the iron acted as a tonic.§

72. *Cannabine* is generally seen as an amorphous substance, of a brown colour in the mass, and greenish in its lamellae. Heated on platina it liquefies, takes fire, and burns without residue. It has an aromatic and nauseous odour, and a peppery, acrid taste. It is insoluble in water, and hence the impropriety of decoction or infusion of Indian hemp; but is soluble in alcohol, ether, fats, or oils. It was employed by Dr. Willemin, in treating cholera, at Cairo, and affords a good means of exactly apportioning the dose of Indian hemp, the different preparations of this containing the active principle in very various proportions. It

* Bul. des Acad., and Med. Times, Feb. 24, 1849. † Revue Med.-Chir., Feb. 1848.

‡ Ibid., Feb. 1849.

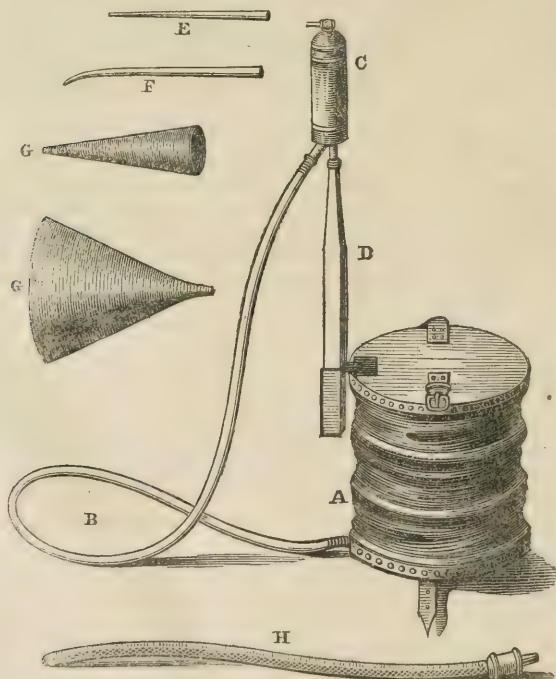
§ Medical Gazette, Dec. 15, 1848.

may be given in the form of pills or tincture. The latter is formed by dissolving 1 part in 9 of alcohol, and filtering at the end of some hours; 1 gramme of this contains 10 centigrammes (2-5ths of a grain) of cannabine, which is the dose employed by Dr. Willemmin, in cholera. It may be given in infusion of tea or chamomile, and its action is assured by taking a cup of coffee at the same time, or soon after. The form of pill is, however, preferable; as the water to which the tincture of cannabine is added, owing to the insolubility of this, becomes turbid.*

73. *Rumex*.—The water-dock enjoys a high character in America, as an alterative and substitute for sarsaparilla. It is given in venereal diseases, with iodine and mercury. It has also been found to cure the most inveterate forms of scabies, as quickly as sulphur. It is used in decoction. $\mathfrak{z}\text{j}$ of the dried root to a pint of water; dose, $\mathfrak{z}\text{j}$ to $\mathfrak{z}\text{ij}$ three times a day.†

74. *New Instruments*—*The Aneuralgicon*.—This is the name of a contrivance for allaying pain, by the application of sedative vapours. It consists of bellows on the principle of the musical instrument known as the accordion; a cylinder for igniting the matter used in fumigating, and tubes filled with various-shaped mouthpieces for the direction of the current; some being tubular and fine, for the meatus auditorius and interior of the uterus; others funnel-shaped, for the application of the vapour to a circumscribed flat surface, as on the skin. The principle is the same as that of the greenhouse fumigator. The materials used are the leaves and stalks of various herbs, as belladonna, stramonium, tobacco, &c. The inventor is Dr. Downing.

The following cut is a good illustration of the aneuralgicon.

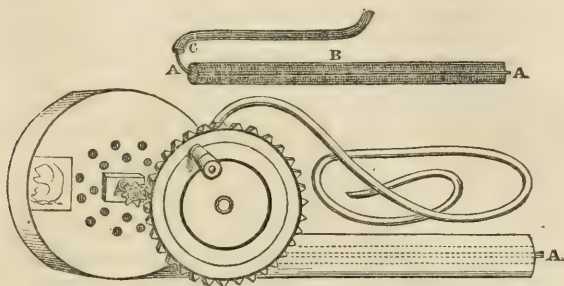


A. the bellows; B. the Indian-rubber tube; C, the cylinder; D, ivory handle of cylinder; E, tube for meatus; F, curve tube; G, G', cones; H, uterus tube.

* *Revue Médico-Chirurg.*

† *Trans. of the American Medical Association*, vol. i.

A somewhat similar mode of treatment, with a different form of instrument, has been used by Mr. Fenton, of Liverpool. It consists of the well-known



A, A, the brass pipe; B, the wire gauze surrounding it; C, the Indian-rubber piping attached to the brass gas-pipe.

"blower," invented by Mr. Clarke, as patented bellows, which is a circular tin box perforated on each side for the admission of air, and containing a fan-wheel, and a tin tube or barrel attached, through which the fan drives a continuous current of air, by means of an external wheel acting upon the axle of the fan. Through the centre of the barrel is introduced a brass pipe, extending from its mouth (as slightly seen in the sketch) to its junction with the box, where it enters, and is there joined to Indian rubber piping, for the purpose of conveying gas into the brass pipe. This brass pipe is perforated with sixty or seventy holes for the ignition of gas; around it is a wire-gauze tube, closed at the inner end for the purpose of retaining a greater heat. The other end of the Indian rubber piping is fixed to a chandelier or gas-pipe of any description, or to portable gas.

A lighted match is held to the mouth of the bellows, while the gas is turned on, and the wheel at once set in motion, when a steam of flame issues from its mouth, and in about a minute the gas-pipe becomes red-hot; the gas is then lowered until the flame is only just perceived, and sufficient to keep the tube ignited, when the hot air may be directed to the affected part. The heat from this source is intense, according to the distance the affected part is placed.*

* Lancet, Feb. 1849.

II.

REPORT ON THE PROGRESS OF SURGERY.

BY C. LOCKHART ROBERTSON, M.D.,

Fellow of the Royal College of Physicians, Edin.; Army Medical Staff; &c. &c.

THE several new publications referring to the practice and theory of Surgery, which it is our duty to notice in the present Report, are as under:—

I. *Pathology of the Human Eye*. By JOHN DALRYMPLE, F.R.C.S.—This splendid work is undertaken with a view of placing before the members of the profession a faithful representation of the diseases of the visual organs which fall under the care of those who, at a distance from ophthalmic institutions, have few opportunities of becoming familiar with their external indications. The author, however, does not profess to touch upon all the diseases of the eye, as there are several which do not allow of pictorial delineation, and others which, from their frequency and simplicity, do not require it. The first fasciculus now before us contains four plates, each exhibiting six drawings of various diseases of the appendages of the eye, accompanied by letter-press, containing a well-digested summary of the pathology and treatment of each. Of the pictorial illustrations, it is impossible to speak in terms of too forcible commendation; they can be only surpassed by the originals from which they were taken. We trust that both author and publisher will meet with such support as the intrinsic merit of the undertaking richly deserves.

II. *Surgical Anatomy*. By JOSEPH MACLISE.—In our last volume, we noticed the appearance of the first fasciculus, and commended it, both as a work of art and of science. The second part has recently been issued, and fully merits an equal meed of praise. It is a mystery only to be solved by the publisher, how, for five shillings, such plates and type, to say nothing of matter, can be offered to the profession. Nothing but an extensive circulation, which we hear the work already commands, can, we imagine, liquidate the expenses of the publication.

III. We have also received the third edition of Mr. Hare's work on Spinal Disease, which appears to have been carefully revised and enlarged.

IV. *Lectures on the Causes and Treatment of Ulcers of the Lower Extremities*. By G. CRITCHETT, F.R.C.S.

On the Treatment of Ulcers of the Lower Extremities, without Confinement. By S. CHAPMAN, F.R.C.S.

These works are devoted to the same object, the treatment of ulcers of the legs without confinement; and both exhibit the evidence of being the composition of experienced surgeons. Extracts from the first appear in the present volume (art. 41, p. 103).

§ I.—*Surgical Experience of Chloroform*.

I. Since the date of our last Report, Professor Miller has published a very able pamphlet* on the Use of Chloroform in the practice of Surgery, the contents of which we shall endeavour, as far as our limits admit of, to lay before our readers. The author's remarks are distributed under the following sections:—

1st. *Anæsthesia permits the performance of operations otherwise inexpedient*.—It is well known to the operating surgeon, that the shock of his capital manipu-

* *Surgical Experience of Chloroform*, by James Miller, F.R.S.E., &c. &c., pp. 60; Edinburgh, 1848.

lations is twofold. 1. Mental; depending on alarm and fear. 2. Corporeal; independent of all mental working and influence; an impression made on the nervous system, probably by the abrupt and decided interference with the circulation—yet not necessarily connected with great loss of blood. The anæsthetic removes the former *in toto*; and I think that I have seen the second, of course not averted, but favourably modified by it also. I believe that the body actually acquires, under the full influence of chloroform, a positive *tolerance* of operation, superior to what it possesses under ordinary circumstances.

2d. *Anæsthesia permits the performance of operations otherwise impracticable.*—Its great advantage is very evident in operations which require great nicety of manipulation along with great steadiness on the part of the patient. Tumours, deep in the neck, for example, may come under this class, especially in the young. At every age, we occasionally meet with cases wholly impracticable, from want of courage and self-control on the part of the patient.

In most operations on the eye, chloroform is likely to prove a great assistance; for when the patient is placed in complete snorting stupor, the eye will be found not only quite motionless, but also perfectly regardless of the stimulus of knife, scissors, hook, and forceps.

3d. *Anæsthesia affords great relief to the operator as well as to the patient.*—This requires no illustration. To no ordinarily constituted man is pain otherwise than repugnant, whether it occur in himself or in another; and hitherto there can be no doubt that his being compelled to inflict pain, and witness the infliction of it, has always been esteemed by the surgeon as the hardest portion of his professional lot. Now this is gone. He proceeds to operate with a mind wholly unoccupied with regard to the *feelings* of his patient; for he knows that all the while he will be in unconscious sleep; and the surgeon's mind, thus undistracted, is, of course, so much the more competent to deal with the details of the operation—its planning, execution, and completion.

4th. *The operating surgeon should never be in a hurry; now he has no excuse for this.*—Formerly, he was tempted to over-haste. He may have imbibed the absurd idea that dexterity is commensurate with rapidity of performance; and a sense of his own self-interest may have unduly urged him to dispatch, in public practice more especially. But it is more charitable to judge that the true reason, in the great majority of cases, was actually that which would probably have been given by the operator himself to an inquirer—to save pain to the patient, to abridge the moments of suffering, for even moments of these are of huge import. Now such moments exist no longer; they are unknown with chloroform. And as there is no cause or excuse for haste in operating on a dead body stretched on a dissecting-table, so there is as little cause or excuse for haste in operating on an anæsthetized body of a living patient. Formerly, it was thought that a stone-patient, by enduring less shock, was more favourably circumstanced for recovery the more rapidly the operation was performed. With chloroform, however, all is changed; and in this, as in all other operations, the surgeon is left at liberty to be as deliberate and pains-taking in every movement of the knife as if he were dealing with textures truly inanimate. From such deliberation in procedure there results, as already stated, no increase of shock or other evil; all is pure benefit—an operation conducted in all its parts with certainty and precision, and therefore more promising of a successful issue.

5th. *Anæsthesia does not favour hemorrhage.*—The converse has been an objection urged. In my experience and belief, it does not hold good. Take amputation, for example: 1. Anæsthesia does not favour flow of blood during the incisions—on the contrary. The tourniquet, or compressing finger of an assistant, is not liable, as before, to be jerked off the vessel, for the patient is lying in thorough stupor, with lith and limb supple as a willow and motionless as a log. The absence of alarm and excitement in the patient saves quickening of the *general* circulation. The absence of writhing and contortion in the limb saves from *local* acceleration of the blood's flow, more especially from the venous trunks. 2. Neither does anæsthesia favour bleeding during deligation of vessels on the stump's face. On the contrary, the quiet state of the stump favours quick dispatch in securing these; and the orifices untied, abiding their turn, will

exude all the more sparingly on account of the quiet state of the general system. 3. Nor does anæsthesia favour hemorrhage after the stump has been arranged, and the patient replaced in bed; for, in the first place, such ample leisure is given for sponging and scrutinizing every part of the stump, once and again, as to render the overlooking of any likely vessel, however obscure, extremely improbable; and, in the second place, reaction after emergence from anæsthesia is not sudden, but gradual; neither is the state of quiet followed by one of excitement; the patient continues tranquil and composed, the general circulation suffers no arousing, and, in consequence, nature's hæmostatics are not likely to be undone in any of the minute arterial twigs.

6th. *Anæsthesia tends to save blood.*—This follows as a corollary from the preceding. The general circulation is quiet and gentle, the muscles are at rest, and ample leisure is given for looking for and securing every bleeding point, and every point likely to bleed. Besides, there may be a decided saving in venous blood; more especially in the neck, axilla, or other parts near the organs of respiration.

7th. *Delicate dissections are rendered more simple and safe.*—This must inevitably be the result, if the necessary depth of stupor be produced and suitably maintained, as it always can be. Excepting the flow of blood, the anatomy is as plain as in a dissecting-room.

8th. *The advantages conferred by anæsthesia on the patient are very obvious, and scarcely require even enumeration.*—Absence of alarm and excitement, and of shock, previous to the operation; freedom from pain during it, and during the arrangement and dressing of the wound, which may be tedious; a greater readiness to undergo operation, rendering this, therefore, because early, all the more likely to prove successful; the prospect, at all times, of a better recovery, all the circumstances of the operation (absence of shock, sparing loss of blood, accuracy of incision, &c.) having been rendered conducive thereunto.

9th. *In operations on the mouth and nose, anæsthesia must be used warily, if at all.*—The obvious and urgent cause of prudence here is the risk of asphyxia by blood escaping into the air-passages. Blood trickles down into the fauces. There, in ordinary circumstances, its presence excites, by reflex action, the function of swallowing, and on it passes to the stomach. Or, if some do find its way into the glottis, it is quickly rejected again, by the violent and uncontrollable efforts of coughing, which the presence of all foreign matter there never fails to produce. But in the deep stupor of surgical anæsthesia, the patient is "too far gone" for either the receiving or the rejecting function; he is alike dull to swallow or to cough; the fluid blood gravitating downwards, as if in a dead body, is as likely to make its way into the air-passages as into the gullet, and accumulating in the former site, because not rejected, it chokes the patient as effectually as if a rope had been drawn tight round his neck, or his lungs injected with plaster of Paris.

In operating for polypus of the nose, I have employed chloroform; but always took care to have the patient seated very erect, and ever and anon to have the head stooped forwards, so as to get the mouth and throat cleared of blood. Notwithstanding the latter precaution, a good deal of blood has reached the stomach, with perhaps a polypus or two from the posterior fauces; but I have never been troubled with the entrance of either into the air-passages; it is, however, obvious that, if chloroform be employed in operations on the mouth or nose, it must be used very cautiously. The patient is laid recumbent during the administration; for that posture, as formerly stated, is very favourable to the desired result being rapidly and satisfactorily obtained. In operating, the position must be changed to that of sitting; or the patient is arranged on his side, so as to make the orifice of the mouth dependent.

10th. *Chloroform lulls pain after operation, and may be advantageously employed thus, although inexpedient during the operation itself.*—In removing a tumour from the palate of a lady, anæsthesia was abstained from during the operation, for the reason stated in the previous section. But, when the operation was over, and the bleeding had stopped, great relief was afforded by gentle inspiration of chloroform; not pushing it so far as to cause deep sleep, but just maintaining what may be termed its *deadening* effect on pain.

11th. *In operations on the skull and brain, anæsthesia is not contra-indicated.*—If anæsthesia be but asphyxia, as some contend, it should be otherwise. Congestion of the brain should be an untoward attendant on such operations. And yet it is not so.

Surgery derives most important advantages from anæsthesia, independently of those connected with operation.—These the author proceeds shortly to consider. He does not think it necessary to dwell on the obvious benefits that accrue from chloroform's use, in the ordinary painful manipulations of our art, as opening abscesses and sinuses in the young or timid, inserting setons or issues, applying the actual cautery, probing or otherwise examining diseased joints, &c. In the one set of cases, pain and fright are saved; in the other, accuracy of diagnosis is manifestly favoured besides.

12th. *Anæsthesia of much service in cases of dislocation.*—Not only does it remove all pain from the efforts of reduction—reduction itself is wondrously facilitated. If a man is found immediately after infliction of the injury, he is pale, sick, and faint; every muscle has lost its energy; he cannot, even by strong will, call up a muscular effort; and, in consequence of the thorough state of muscular helplessness, the surgeon has seldom any difficulty, even though single-handed, in reducing the displacement. But if this favourable period of depression pass by unimproved, and the man recover his general vigour, while the muscles regain their ordinary contractility—and something more—it is well known that much difficulty must be looked for, in many cases, ere displacement can be effected. And this is not achieved—that is to say, the main obstacle to reduction, namely, muscular contraction, is not overcome—without the infliction of much pain on the patient, and the expenditure of much exertion on the part of the surgeon and his assistants. The object is, to succeed not by mere brute force, in hauling by ropes or sheets; but to imitate that state of prostration which occurs at the time of the accident, and which is so manifestly favourable to success. Many auxiliaries, therefore, to the mere physical force have been devised and practiced: tobacco, but that does too much; bleeding, but that also is faulty, for it is but seldom that blood in quantity can well be spared; opium, but the effects are not very transitory, and all systems do not equally well agree with the drug. Antimony, pushed to complete nausea, and the warm bath, kept up to complete prostration, these latter have hitherto been the most frequently employed; achieving the object desired, not very persistent in their effects, and leaving no permanent damage in the system. But all are inferior to chloroform. Did this do nothing more than merely obtain thorough muscular relaxation, it would be a great matter; but when, in addition to this, it removes all pain of manipulation too, the value of the boon is unspeakably enhanced. The stupor must be deep, however, and deep it must be maintained, otherwise the effect on the muscles will be the very opposite of what we seek. The patient is laid down, and all arrangements made for extension; the chloroform is given, the legs and arms begin to move, and the muscles will be found then as stiff and hard as boards; nothing is done until the eyes fix, the limbs are at rest, and the muscles grow soft and supple as if a week dead. Then the extension and coaptation are made; and it is truly wonderful to see with what facility, in most practicable cases, the bones find their place again. The object is achieved without much trouble to either party, and without even the knowledge of the one principally concerned.

13th. *Anæsthesia is of much use in the examination of injuries.*—The surgeon is not unfrequently sensible of strong inward discomfort, when called on to make a searching examination of a hip, elbow, or shoulder-joint, recently injured. And his discomfort arises from two distinct causes: 1. There is the apprehended difficulty of the inquiry, with uncertainty of diagnosis; and the consequent risk of reputation in himself, as well as of disadvantage to the patient. 2. There is a strong reluctance towards inflicting such pain as he knows is inevitably associated with the thorough manipulation necessary to secure accuracy of diagnosis. From both these, chloroform relieves him. From the latter thoroughly: for the patient feels no pain, if duly placed and maintained in anæsthesia, let the surgeon handle him as long and as roughly as he may. From the former, he is likely to be also saved; inasmuch as the anæsthesia,

while it admits of unlimited manipulation, creates also such a thoroughly passive condition of the parts, by reason of muscular relaxation, as greatly to facilitate a perception of the degree and kind of injury at once quick and accurate. Many and many a time have I felt myself sorely beset in encountering hip- and shoulder-joints, especially in children; my brain urging my hands to work freely, regardless of everything but diagnosis; my heart upbraiding me for causing the poor patient such agony, and counselling me to desist. Many and many a time, during the past twelve months, have I thankfully found myself spared such inward discord; the patient unconscious of everything, and the surgeon's head and heart left to their own proper functions in perfect harmony. Furthermore, a third advantage may result from chloroform here. Not only is pain saved, and diagnosis facilitated. Suppose that the joint is found to be dislocated. Why, no sooner, almost, is this truth arrived at, than back the bone may be placed in its proper site again; and that with no greater effort on the part of the surgeon than what is usual in mere detective manipulation—so thoroughly favourable is the condition of the part for reduction. Under chloroform, recent fracture of the neck of the humerus was at once detected; and so loose and tractable did the now isolated head of the bone feel in the axilla, as to suggest the idea that, if there had been anything to pull it by, reduction of the old and original injury might even at that date have been effected.

14th. *Anesthesia lends much assistance in the treatment of irritable stricture.*—Every surgeon has had ample proofs given him of there being often much irritability and much spasm in the male urethra, when the seat of an old standing and tough stricture; and he knows full well that he and his bougie find these depraved conditions most troublesome as well as most obstinate foes, in the treatment of the main disease. So sensitive sometimes is the part, that the patient cannot bear the instrument, and insists on its removal, ere even it has reached the strictured portion. Or, again, it may painfully pass a certain length; and then a spasm comes, quite insuperable—with safety—as if declaring that, though the patient might bear the instrument, the stricture will not. In such cases, there are a variety of means whereby we may seek to overcome the difficulty. But there are none so good as chloroform.

15th. *Anesthesia renders the operation of sounding safer for both patient and surgeon.*—All surgeons are familiar with the fact that, simple as this manipulation seems, yet it is in itself not free from hazard to life. From it alone, patients have perished: by a cystitis, by suppression of urine, by fever, or otherwise. Surgeons are as familiar with the equally painful fact that they are liable to be deceived in the results of the operation, and to fall into sad disasters in consequence. In short, many a surgeon has thought he felt a stone, when, in reality, he did not; and stoneless lithotomies have followed. Now, with chloroform, the patient—whatever his age or timidity, however irritable and sensitive his bladder, however protracted and careful the sounding—lies as steady and as quiet as if dead; the touch and ear of the surgeon have it all their own way, and in ordinary cases he is sure of avoiding error in diagnosis.

16th. *Chloroform is a most valuable auxiliary in the taxis for hernia.*—We praised it highly as an auxiliary in the reduction of dislocated joints. Hernia is a dislocation; and, in the displacement of bowel, chloroform will be found almost as efficient as in displacement of bone. The observations need not be repeated. It saves pain, produces thorough relaxation, does not aggravate the already begun collapse, is perfectly manageable, quickly passes off when no longer wanted, and leaves no untoward effect behind. One qualification, I would, however, make. In the case of ordinary dislocation, I placed chloroform foremost in the list of auxiliaries—in all respects decidedly superior to its colleagues. Here, I am not prepared to advise that opium should give way. I would place both on a par; both are excellent; chloroform superior, in being more rapid and certain in effecting muscular relaxation; opium having the advantage of conferring a power on the general system, of sustaining itself under the otherwise overwhelming depression caused by the strangulation. They will do excellently, conjoined.

—A paper on this subject, but of quite inferior merit to Professor Miller's able pamphlet, will be found in the April number of the "Monthly Journal."

In the September number of the same Journal, there is an excellent paper, by Mr. Francis Brodie Imlach, dentist, on the employment of chloroform in dental surgery.

— In the “Transactions of the American Medical Association,”* there is a good report on anæsthetic agents, to which is appended a series of tabular views on the result of operations performed in the States under their influence. We are, however, not furnished with the means of comparing these results with those obtained in the institutions before the introduction of these agents.

§ II.—Military Surgery.

2. *The Wounded in the Insurrection of Paris in June 1848.*—With reference to our extracts from M. Velpeau’s clinical lectures on the treatment of gunshot wounds in the last volume of this Journal (Vol. VIII. art. 46), we subjoin the following summary of the observations on the Paris hospitals, extracted from a well-reported series of papers in the “Medical Times,” by Dr. Kidd.

“The following tabular view represents the ultimate results obtained in the treatment of the wounded of June 1848 :—

ULTIMATE RESULTS.

Hospitals.	No. of Cases.	Requiring Amputation.	Deaths.	Per Cent. of Deaths after Operation.
La Charité	182	26	10	38
St. Louis	150	12	7	58
—	170	52	20	38
Hôtel-Dieu	180	15	9	60
Various other hospitals	—	79	50	63
Total	—	184	96	52

The mean of all this gives a mortality (52 per cent.) exactly twice that already arrived at by comparing the result of similar operations in the hospitals in the Peninsula and the various hospitals in America; in point of fact, one half of those requiring to be operated on after the late events—notwithstanding our advanced surgery, chloroform, collodion, &c.—falling a prey to the operating knife. I have tried already to explain this dreadful mortality in some way; it remains, however, almost unexplainable. It would be easy to speculate, perhaps, still further; to dwell more at length on the peculiarities of the different men’s practice. It seems, however, something very like a foregone conclusion, that we have nothing in point of fact to add to our previous knowledge from such debatable materials.

The facts established by the late events are the following:—

1st. The appearance of gunshot wounds depends on the time of the occurrence of such accidents; at an early period, the wound of entry is larger than that of exit. Suppuration, however, once established, a difficulty exists in distinguishing the two. Further on in the process the characters becoming again well marked, that of entry round, hard, large; that of exit small, prominent; long granulations closing up the latter before the former.

2d. In civil hospitals, contradistinguished from those attached to a moving army, more may be done in the way of saving limbs than has been generally thought possible.

3d. With respect to the removal of foreign bodies, splinters, &c., the mass of evidence is in favour of such a mode of proceeding. Exceptional cases, no

* The Transactions of the American Medical Association, vol. i. Philadelphia, printed for the Association, 1848.

doubt, like those mentioned by Jobert, are sometimes met with; where foreign bodies, however, can be removed, they should, even at some little risk.

4th. In cases of hemorrhage of a primary nature, we must act as in ordinary wounds—tie the artery as near the wound as possible; in consecutive or secondary hemorrhage, on the contrary, we must put on the ligature on the main trunk of the vessel, as far from the original wound as may be indicated.

5th. Hemorrhages which arise from wounds of soft parts rarely occur after the eighth day; while those, on the contrary, which complicate injuries of osseous tissues come on as often after that period.

6th. Secondary amputation should never be thought of as a thing to fall back on. Amputation should be primary, or not at all; secondary amputation, even in cases of sphacelus or hemorrhage, being of more than questionable utility.

7th. Débridemens, as the word implies, should be strictly confined to freeing aponeurotic and analogous structures in a state of constriction. In a case at St. Cloud, the tendon of the pectoralis major was cut across, and the man left without the use of his arm.

8th. In matters of treatment, our old English way of doing things seems best, cold-water dressings, as a general rule, being preferable to ice; where the skin is broken, the latter seems particularly inadmissible, as masking the real danger, and only prolonging the inflammatory process.

9th. As a general rule, the part should be disturbed as little as possible, the pulse and tongue being sufficient indices of the state of health of the patient; foreign bodies of every kind, as regards the wound, should also be guarded against and removed.

10th. Operations should never be performed while the patient is in a state of collapse, the state of the system under the effects of chloroform being an exception.

11th. In injuries of the head, the most formidable cases apparently are not the most fatal, or the most fatal those requiring most care.

12th. Age and mental exertion seemed to have much to do with the rate of mortality: the soldiers, for instance, according to M. Baudens, were cured with difficulty; the officers, with more on their mind, still more so; the generals were not cured at all.

13th. Anæsthetic agents have, in almost every instance, proved highly safe and useful.

14th. The rate of mortality has been much higher than the general experience of such accidents would seem to indicate. Amongst those operated on it has been twice the ordinary average.

— In connection with this subject, we subjoin also the substance of a Report to the Director-General of the Medical Department of the Navy, by Mr. WELLS,* Surgeon, R. N.

From the 23d to the 26th of June, the streets of Paris were the scenes of conflict between the workmen and lowest order of the population on the one hand, and on the other the soldiery and different classes of national guards. The insurgents firing from behind barricades, or from the windows of houses, were able to take good aim at their assailants, who, in their attacks upon barricades and narrow streets, were almost at the mercy of their opponents. Thus, the number of wounded insurgents in the hospitals has been very few, when compared with that of the troops and guards. I have not been able to obtain an exact account of the number of wounded insurgents, but the following is the official report, including among the civilians those of this class who fought on either side.

Return of wounded brought to the civil hospitals of Paris, between the 23d and 28th of June:—

* Medical Gazette, August 1848.

	Civil.	Milty. & Guards.	Women.	Total.
Wounded received during this period	773	813	33	1619
Brought in dead	127	33	2	162
	900	846	35	1781
Discharged during this period	51	104	2	157
Died	115	77	3	195
Remaining July 29	607	632	28	1267
“ in ambulances	“	“	“	364

This does not include upwards of 500 soldiers in the Military Hospital. Thus the killed, and those who died during the five days, amounted to 357, or a proportion of deaths of about 1 in 8 of those taken to the hospitals alive. No autopsies having been made during this time, no accurate report can be given as to the various causes of death. The daily discharges by death or recovery have now reduced the general total to 1100. As some months must elapse before a correct statistical return can be drawn up of the nature of these wounds, and the results of operations or other treatment, my present observations must consist of a few general remarks upon what I observed in the wards.

Almost all the wounds were made by musket-balls; a very few sabre-cuts, some few bayonet thrusts, and contused wounds from splinters, portions of shells, broken stones of the barricades, forming together a very inconsiderable proportion of the wounded. The combatants being very near to each other, the balls struck with a force undiminished by distance, and thus the wounds were generally of a more severe nature than would be met with in a field of battle, when the parties were at a considerable distance from each other; consequently, in a large proportion, the wound is complicated by fracture of the bones, and very often the ball has not lodged, but has traversed the limbs or chest, leaving two openings. In many cases, balls have been apparently split into two or more pieces, by striking against bones; in others, they have been found very irregular in form, probably from the same cause; while, in some cases, balls cast from pieces of old iron or copper, projecting from the sides, have caused considerable laceration of tissues, and difficulty of extraction. In some cases, the balls were pierced, and found filled with a white powder, the composition of which has been investigated, but not published. No marked symptoms of poisoning by such balls, however, have been observed. The direction of the wounds is generally from above downwards, and from before backwards, in the troops and national guards. Among the insurgents, a large proportion are wounded about the head and chest, these being the only parts they exposed when firing at their assailants.

With regard to the treatment, the first objects were, of course, to check hemorrhage (which appears, by the by, to have been more abundant, as a general rule, than is commonly observed), and to allow the patient to recover from the state of stupor, collapse, or nervous tremulousness into which he had fallen. Then, in cases of simple wounds of soft parts, either ice was employed, irrigation by cold water, warm fomentations, or poultices, either directly applied or between two cloths. As far as I observed, if the wound was slight it progressed as favourably under any one of these applications as any other; and I saw nothing to shake my conviction that lint wetted with water at the temperature most agreeable to the patient, is the best and cleanest application that can be used. A great diversity of practice prevails as to the extraction of foreign bodies. In the Military Hospital, the surgeons are exceedingly particular in removing every portion of ball, clothing, or splinter of bone that can be detected, thus reducing the case, as they say, to the condition of a simple wound; ice or cold water is then applied as long as the patient can bear it, and when he desires it, warm applications are substituted. At the Hôpital St. Louis, on the other hand, the surgeons, especially M. Jobert, insists upon non-interference with the wound, on the ground that searching for balls is dangerous—that they either become encysted and remain harmless in the part, or excite suppuration, and are discharged. In the same way, they say splinters of bone are either

removed by suppuration, or remain and assist in consolidating the broken bone. From what I saw in the wards of this hospital, I should be very unwilling to follow the example of M. Jobert; and I am convinced that the proportion of cases of gangrene and secondary hemorrhage, of erysipelatous inflammation, unhealthy suppuration, and purulent absorption, was far greater in his than in other hospitals. In one of his show cases of the wounded of February, what he calls a cure of a compound comminuted fracture of the head of the humerus, the patient is evidently suffering from the effects of portions of necrosed bone being surrounded by a large deposit of callus. At the Hôtel-Dieu and La Charité, Roux, Velpeau, and Blandin take a middle course, making just sufficient dilatation of the wound to admit of the extraction of foreign bodies or splinters, which can be readily reached, and then applying ointment spread upon charpie, with or without poultices. Gangrene was generally limited to the parts immediately surrounding the course of the ball; but in some cases it extended, and considerable hemorrhage came on after the separation of the slough. I only saw one case resembling hospital gangrene. This was a large superficial wound, and it improved rapidly under the application of slices of lemon by Roux, with whom this is a favourite remedy in such cases. In some cases, gangrene of a whole limb led to the question whether amputation should be performed immediately, or not until a line of demarkation had formed. Velpeau, and most other surgeons, did not wait for the line of demarkation when the gangrene was near the centre of the body, and removed the limb as the only chance of saving the patient's life.

When a wound was complicated by fractured bone, and amputation was not required, in some cases irrigation was employed, in others poultices, but more often the limb was covered with greased charpie, enveloped in broad folds of linen, surrounded by a many-tailed bandage, over which three straw pillows or pads would be fastened by tapes surrounding them, and a long narrow splint which was laid upon each. All this was generally removed and reapplied daily, on account of the quantity of purulent discharge from the wound. No care appeared to be taken to keep the limbs extended or immovable, and, on the whole, the treatment of fractures in the Parisian hospitals struck me as being far less simple and efficacious than in our own. Wounds of joints were numerous. I saw three cases in which balls undoubtedly traversed the knee-joint: in one, from before backwards through the patella; in the others, from side to side, injuring the condyles of the femur. All are as yet going on well, under the influence of rest and an antiphlogistic regimen.

A great many amputations have been performed, both primary and secondary. Of course, as yet no accurate return can be made of their relative success; but common observation would show that the former have been very successful, the latter quite the reverse. The deaths, as far as I could learn, have not exceeded one in ten of the primary operations; while the secondary have been almost uniformly unfortunate in their result. By primary I do not mean immediate amputation, or amputation during the state of stupor or tremor which first succeeds the injury, but when the patient has rallied from this state, and reaction is coming on before local inflammation is set up. From what I saw of the practice in Paris, I should say that, if this period were not taken advantage of, it would be far better to wait until healthy suppuration was established in the part, and a sort of hectic had replaced the irritative fever which accompanies the inflammatory condition of the wound before pus is freely formed, than to amputate under the influence of this irritative fever, as some surgeons did, with the belief that they were giving the patient his only chance of life.

The circular operation appears to be commonly preferred to the flap, as an opinion is becoming general that, after three or four years, the stump is a better one than when flaps have been formed. At most of the hospitals, the old-fashioned method of dressing stumps is persevered in: whether pins, sutures, or strapping, are used to bring the edges of the wound together, quantities of greased charpie are laid on, and carried by numerous folds of linen and a bandage. I saw the method M. Baudens lately proposed, of surrounding the limb by a bandage, and then drawing this forward by cotton threads, so as to approximate the lips of the wound. It is better and simpler than the other plan:

the limb is cool, and easily kept clean; but I thought three or four sutures or strips of adhesive plaster would have kept up more accurate adaptation of the flaps to each other.

Chloroform is almost universally used, but in two cases appears to have contributed to the fatal result of amputations. One, a patient of M. Robert, died before the operation was completed; the other I saw die in the bed just as M. Malgaigne had completed disarticulation at the shoulder-joint, and feel convinced that chloroform was the immediate cause of death, although M. Malgaigne did not appear to think so. Velpeau, though he uses it in other cases, objects to its employment in cases of gunshot wounds, as he says it invariably increases existing prostration.*

3. Mr. Guthrie, in the first of a series of lectures on surgery, has given a large series of statistical tables of the highest value, and which have not hitherto been published, containing *the results of treatment in the British military hospitals in the Peninsula and after Waterloo*. We regret much that our limits entirely prohibit our placing them here on record.*

4. *Hospital Gangrene*.—The attention of the profession has, during this half-year, been again directed to this important subject by Mr. Guthrie† and Dr. Boggie,‡ and as both these gentlemen had ample opportunities, during the Peninsular campaign, of witnessing the ravages of this disease, their opinions are well deserving of careful attention.

Great Mortality in Hospital Gangrene. (Guthrie.)

Return of the number of cases of Hospital Gangrene which have appeared at the Hospital Stations in the Peninsula between the 21st of June and the 24th of December, 1813.

Stations.	No. of cases occurred.	Discharged cured.	Deaths.	Under treatment.	No. operated upon.	
Santander	160	72	35	53	25	Most of these cases were sent from Vitoria.
Bilboa . . .	972	557	387	28	183	
Vitoria ..	441	349	88	4	74	Thirty-seven transferred to Santander.
Passages .	41	2	2	
Vera	Vera, being almost on the field of battle, had no case.
Total .	1614	980	512	85	282	

The mortality, therefore, amounted to nearly one-third of the whole attacked. This return clearly establishes the importance of a due investigation of the nature, causes, and treatment of so extensive and fatal a disease, and one which must thus necessarily cripple the resources of an army.

5. *History of Hospital Gangrene*.—The following remarks are extracted from the lectures of Mr. Guthrie:—

The most ancient surgeons are supposed to have been acquainted with this disease, even before the introduction of firearms. Celsus, Aëtius, Paulus Rolandus describe, under the head of “*De carbunculo superveniente vulneri*,” something very like it. Avicenna in the twelfth, and Rogerus, Brunus, Theodoric, Lanfranc, Bertapalia, and Guido, in the thirteenth and fourteenth centuries, were not less precise. Ferrus, who published, in 1534, one of the first treatises extant on gunshot wounds, was of opinion that they were poisoned, from the appearances of mortification which frequently followed. Paré and Wiseman

* Lancet, November 4, 1848.

† Lectures on some of the most important points in Surgery, by G. J. Guthrie, F. R. S., &c. Lancet, December 1848; Lectures II., III., IV.

‡ Observations on Hospital Gangrene, by John Boggie, M. D., pp. 151. Edinburgh, 1848.

were both acquainted with this corrosive or putrid ulceration which followed gunshot and other wounds; and believed that, if this putrefactive process were not checked, mortification followed, and the death of the sufferers generally ensued. Both these great surgeons treated such wounds by destructive remedies, and by an ointment called *Ægyptiacum*, composed of equal proportions of powdered alum, verdigris, Roman vitrol, and honey of roses, mixed with a sufficient quantity of vinegar, and boiled together, *secundum artem*; to be dissolved in wine when used, and applied by means of tents, or by a syringe. Avicenna recommended the use of arsenic, the red sulphuret, or the oxide or sublimate, as it was called; but this remedy was considered dangerous, when used as a caustic by being sprinkled on the diseased parts, from the bad effects which were observed to follow constitutionally, its careless or improper employment; and Wiseman particularly recommends the actual cautery, in preference to ordinary caustics, if the sufferers will submit to the application—a proceeding which, in the present day, stands pre-eminent in utility, when persons will submit to it, not only on account of its being the most efficient and the cheapest of all means which have hitherto been devised, but from its being the least barbarous or cruel in *reality*, whatever it may seem to be in appearance. La Motte was acquainted with this disease, and its general existence at the Hôtel-Dieu of Paris; and of its attacking, not only wounds, but even abscesses after they had been opened; and Pouteau, in his posthumous works, published at Lyons in 1783, well describes the disease, and its most efficient remedy, the “actual cautery.” In 1788, Dusassoy, also of Lyons, confirmed the views of Petit. Dr. Gillespie, in 1785, and Sir Gilbert Blane, in 1789, both physicians in the navy, described an incurable phagedenic ulcer “the most destructive complaint incident to a sea life, particularly in a hot climate.” They recommended, especially, the application of the juice of limes and lemons to the ulcerated or mortified parts, with such diet as was usually ordered in scurvy. Dr. Rollo, at the end of his “Treatise on Diabetes,” published in 1797, alludes to a disease of this nature occurring in the Military Hospital at Woolwich, and considered, *rightly*, that it depended on the application of a morbid poison to the sore. To destroy this, he used the oxygenated muriatic acid, diluted, and the nitrates of silver and mercury. Mr. Cruickshank, the celebrated chemist, engaged with Dr. Rollo in inquiring into the nature of this poison, was of opinion that an ulcer, in a healing state, might be preserved from it by washing the ulcer, every dressing, with a weak solution of the nitrate of mercury, or of the oxy muriatic acid; and if the disease were actually formed, he recommended the undiluted nitrous acid to be applied to the part.

The surgeons of the Royal Navy about this time added their information to the general stock, particularly Mr. Ballard and Dr. Harness, in 1800, in the fourth volume of the “Medical and Physical Journal;” and Dr. Trotter, in 1804, published, in the different volumes of his “*Medicina Nautica*,” several reports on this complaint from different surgeons of the navy, particularly Mr. Caird, of the “Queen Charlotte;” Mr. Brown, of the “Triumph;” Dr. McDowal, in the West Indies; and Mr. Arthur, of the “Belleisle;” Mr. Briggs, of the “Ajax;” and Mr. Jarvis, of the “Indefatigable.” Mr. Little, in 1809, who published a pamphlet on the “Malignant Contagious Ulcer,” says it caused a greater loss to the navy than all the other diseases incident to seamen, and he concluded that it was a specific contagion derived from some *exterior source*. Dr. Thomson, in 1813, Professor of Surgery in Edinburgh, reviewed all these different opinions in his work on “Inflammation,” but added nothing definite to the modes of treatment then adopted, and which were all of them thoroughly inadequate for the cure of the disease. Nothing important is to be found in the works of Baron Larrey. Professor Brugmans, of Leyden, published, in the “*Annales de Littérature Médicale, Etrangère et Nationale*” for July, 1815, an able paper on this disease, which he saw, in 1798, at Leyden, and in 1805, at Amsterdam. Delpech, of Montpellier, did not publish his valuable paper until 1815, although it was read, in October, 1814, before the Institute of France. Mr. Blackadder and Dr. Hennen published their respective memoirs in 1818; and Mr. S. Cooper has summed up the opinions of them all in the late editions of his “Surgical Dictionary.”

The British army, in Portugal and Spain, had nothing to refer to which could render them any essential service; they had not the opportunity of procuring the books above alluded to; and it was only at the end of the year 1813, when they heard of the success which attended the use of the actual cautery in the French army, that they were led to believe in the essentially local nature of the disease; in the first instance, however, it might be subsequently accompanied, or even preceded, by fever of various kinds.

The battles of Roliga, Vimiera, Corunna, Oporto, and Talavera gave no cases of hospital gangrene, although Dr. Boggie, to whom I have alluded, thinks it was visible among the wounded, on the retreat from Talavera to Merida, and subsequently to Elvas, and more particularly at the convent of Deleytosa, where the wounded assembled whilst the army bivouacked around it, and at Jaracejo. This convent was an object of particular attention to me, and I always take the liberty of describing it as the slaughter-house of the wounded of the army, for reasons I shall some day explain; but the gangrenes seen in it were the consequences of excess of inflammation under mismanagement, and not of a morbid poison, which requires a longer period to originate than elapsed between the battle of Talavera and the bivouac of Deleytosa. It was only when the unfortunate wounded who survived were sent to Elvas, at the end of 1809 and 1810, that the disease appeared for the first time; and from this moment it was usually to be found in almost all the general hospitals in Portugal and Spain.

6. *Forms and Symptoms of Hospital Gangrene.*—Dr. Boggie distinguishes two forms under which hospital gangrene usually appears, viz:—

1st. The Sloughing, and

2d. The Phagedenic,

which, for the most part, he says, exist separately, but yet are not unfrequently combined in the same sore.

The symptoms of these two varieties are thus graphically described by Mr. Guthrie:—

A wound, attacked by hospital gangrene, in its most concentrated and active form, presents a horrible aspect after the first forty-eight hours. The whole surface has become of a dark red colour, of a ragged appearance, with blood partly coagulated, and apparently half putrid, adhering at every point. The edges are everted, the cuticle separating from half to three quarters of an inch around, with a concentric circle of inflammation extending an inch or two beyond it; the limb is usually swollen for some distance, of a shining white colour, and not peculiarly sensible, except in spots, the whole of it being perhaps cedematous or pasty. The pain is burning, and unbearable in the part itself, whilst the extension of the disease, generally in a circular direction, may be marked from hour to hour; so that, in from another twenty-four to forty-eight hours, nearly the whole of the calf of a leg, or the muscles of a buttock, or even of the wall of the abdomen, may disappear, leaving a deep, great hollow, or hiatus, of the most destructive character, exhaling a peculiar stench, which can never be mistaken, and spreading with a rapidity quite awful to contemplate. The great nerves and arteries appear to resist its influence longer than the muscular structures, but these at last yield; the largest nerves are destroyed, and the arteries give way, frequently closing the scene, after repeated hemorrhages, by one which proves the last solace of the unfortunate sufferer. I have seen all the largest arteries of the extremities give way in succession, and until the progress of the disease was arrested by proper means, the application of a ligature was useless. The joints offer little resistance, the capsular and synovial membranes are soon invaded, and the ends of the bones laid bare. The extension of this disease is, in the first instance, through the medium of the cellular structure of the body. The skin is undermined, and falls in, or a painful red, and soon black patch, or spot, is perceived at some distance from the original mischief, preparatory to the whole becoming one mass of putridity, whilst the sufferings of the patient are extreme. A complaint of this kind cannot long be local, even if a local origin be admitted; and the accompanying fever is usually dependent on the previous state and general constitution of the patient, modified by the season of the year, or the prevailing type of febrile disease.

This gangrenous disease does not always prevail in this its most concentrated

form; the destroying process assumes more of a sloughing than a gangrenous character, whence Delpech has denominated it pulpous (*pulpeuse*), rather than gangrenous. It is in its nature almost equally destructive, although not quite so formidable in appearance. It may attack the whole surface of an ulcer at once, or in distinct points, all, however, rapidly extending towards each other, until they constitute one whole. The red of the granulations becomes of a more violet colour, and the change is accompanied by a burning pain, not usually felt in the part, while a layer of ash-coloured matter is soon seen covering them, which adheres so firmly as not to be readily removed; or, if separated, shows that it is a substance formed upon the surface, and constituting a part of the granulations themselves, which are ultimately confounded within it.

About the end of the first week, and sometimes much later, this kind of ulcer becomes more painful, the edges, or the circumference of the wound, assume a browner hue, and the parts become somewhat pasty, the whitish colour of the part particularly affected being opaque, gray, and soft. It may be said that the false membrane, having become very thick, has lost the little vitality it possessed, and become putrid; the discharge which had been partly suppressed, now reappears, not as pus, but as a fetid ichor exhaling the peculiarly offensive stench of this disease. This pulpy, yellowish, putrid substance becomes thicker, and extends deeply; it invades the whole substance of a muscle, under which a probe may be passed, and the instrument brought out through it, with the loss, perhaps, of some striae of blood, from parts which are not yet actually destroyed; the mass is, however, adherent, although its extent diminishes by the putrefaction and wasting away of its surface.

Dr. Tice, who, as I have stated, had perhaps greater opportunities than any other officer of observing the progress and fatal effects of this disease, in 1812, in the great hospitals of Coimbra, says: "The ulcer will be seen very often bounded by a red margin, whilst the surface, when cleansed of a brown, streaky, fetid, and sometimes clammy, purulent matter, will exhibit a deep red surface, highly irritable, and disposed to bleed on the slightest touch. On many occasions, the first thing complained of is, that something is burning the wound or sore, and has done so for some hours, and occasionally, on inspecting the wound, the change in the colour of the granulations is not found so great, the discharge is less ichorous and offensive, although the edges have become red and irritable; sometimes a wound or ulcer is affected by spots of discoloration, covered by a viscid, putrid pus, mixed with blood. These spots frequently appear on the discoloured margin, and rapidly extend, so that in a few hours the sloughing surface will have attained thrice the original size of the ulcer.

"When the diseased action in the part has somewhat subsided, and the disposition for healthy action has been in some degree restored by the appearance of a more healthy-looking discharge, the returning granulations may be seen, covered by a thin and delicate covering, through which the vessels below may be perceived on minute inspection. This apparently healthy change is often, however, suddenly arrested, and the disease as rapidly assumes its worst character as before: this sudden conversion of the complaint is often attended by the most fatal consequences. The occurrence of this change has been portended in some instances by the appearance of a small, bladder-like vesication, or elevation, containing a thin ichor, which elevation appeared to consist of the newly-formed membrane, alluded to as covering the apparently healthy granulations.

"On many occasions in which the disease is slow in its progress towards the sloughing stage, the granulations have appeared to coalesce, their elevations to disappear, and a kind of soft swelling to take their place in some particular part of the ulcer, of an exceedingly irritable and painful nature, bleeding on the slightest touch, and ultimately passing into a state of putrefaction."

7. *Duration of the Disorder.*—The duration of this disease (observes Dr. Boggie) varies in different individuals. If not checked by the operation of remedies, it may continue for a period of from fourteen to twenty days, or even longer; but it often terminates much sooner, sometimes as early as the third, fourth, or fifth day, either in recovery or death.

8. *Nature of Hospital Gangrene.*—From all the phenomena of the disease (says Dr. Boggie), we may be warranted in considering hospital gangrene, especially that form of it named contagious gangrene, to be a peculiar inflammatory action attacking wounded surfaces, varying in its character according to the constitution of the patient, type of the accompanying fever, and other circumstances; nearly allied to erysipelas, if, indeed, it be not a modification of that disease, and depending on a diversity of causes which we shall now endeavour briefly to consider.

9. *Causes of Hospital Gangrene.*—The foul air of crowded hospitals has always been considered a chief cause of hospital gangrene; and that it is so, cannot reasonably be doubted; indeed, the records of public hospitals bear ample proof of the truth of the opinion. But, again, we are told that there is no hospital, however small, airy, or well regulated, where this disease may not at times prevail;* and also that it has been known to appear among wounded who have not been in hospital at all.† Thus (adds Dr. Boggie) it appears that hospital gangrene may exist independently of this as a cause; that it is not exclusively confined to hospitals, as has been supposed; and that the vitiated air of such establishments, though considered by some to be the sole cause of the disease, is but one of the many by which it may be produced.

Dr. Boggie enumerates the following seven distinct causes producing this disorder:—

a. *Particulars state of the atmosphere.*—It has often been observed that, in certain seasons, wounds, whether received in battle or in consequence of operations, and even old sores, become affected with gangrene; but what these states are has not been very well ascertained. Hospital gangrene has been known to prevail at all seasons of the year; but, as far as my observation goes (says Dr. Boggie), in hot weather much more frequently and severely than in cold. Indeed, I know of no exception to this fact of hospital gangrene prevailing most in hot weather; and I am, therefore, inclined to consider a greatly heated atmosphere to be one of the most powerfully exciting causes of this disease.

b. *Inattention to cleanliness.*—This appears to be a very frequent cause of hospital gangrene, and is considered by Dr. Boggie to be the source of the disease in some instances, as it occurred at Passages in Spain, so well described by Mr. Blackadder (*On Phagedæna Gangrenosa*). And in that form of the disease (he adds, further on), which prevailed in the artillery hospital at Woolwich, described by Dr. Rollo, nothing appears to me more clear than that want of cleanliness was the chief, indeed apparently the sole, cause of the disease there.

c. *Acrid or irritating applications.*—These may be considered another cause, or, at least, may contribute very effectually to the production of this disease.

d. *Stimulating food.*—It has been thought that the disease may be occasioned by a change of food, as from a vegetable diet to one consisting chiefly of animal matter; and I have myself very little doubt (says Dr. Boggie) that it may contribute to that effect.

e. *Intemperance in the use of wine and spirituous liquors.*—It is hardly possible to imagine anything more likely to produce hospital gangrene than the abuse of wine and spirituous liquors; and I have been long inclined (observes Dr. Boggie) to consider this as one of the most powerfully exciting causes of the disease. In that very violent form of the gangrene which prevailed at Bilbao, in the summer and autumn of 1813, whatever other cause might have contributed to the production or continuance of the disease, there is not a doubt on my mind that it was rendered much more virulent, and that it was even perpetuated in the hospitals there, by the use of wine and other stimulants injudiciously administered.

f. *Motion, or mechanical irritation.*—This is a much more frequent cause of hospital gangrene than has been imagined.

g. *Specific contagion.*—When the disease is once produced, although the same causes continuing to operate may be sufficient to keep it alive, it appears

* J. Bell, *Principles of Surgery*, vol. i. p. 108.

† Rollo on Diabetes, vol. ii. p. 262.

probable that a contagion is generated, and that the disease may be propagated in this way to a certain extent at least, although the causes by which it was originally produced should have ceased to act.

That the disease is contagious or infectious (says Dr. Boggie, further on) cannot, I think, be doubted.

10. *Treatment of Hospital Gangrene.*—The treatment may be divided into general and local.

a. General treatment.—In the early stages, and when used with caution, and in cases where it is really applicable, Dr. Boggie considers *general blood-letting* to be a most valuable remedy. *Emetics* he has seen used, and sometimes with advantage, but considers them much inferior to *cathartics*. These appear to be the remedies, next to bloodletting, the best calculated for lessening arterial action in inflammatory diseases; and the use of them was indicated in cases where that remedy was inadmissible, or, at least, not so much required. Among the poor in civil hospitals, purgative medicines will be found in this disease, unless in very extraordinary cases, to be the most useful, indeed the safest, evacuants.

In the latter stages, opiates, bark, vegetable and mineral acids, are all recommended.

b. Local treatment.—There are few diseases in which a greater variety of topical applications has been applied, and to enumerate them all would be useless. Those, however, of any efficacy may be comprised under three classes, viz :—

Sedatives,
Escharotics,
Stimulants.

When the inflammation continues violent, Dr. Boggie recommends the local application of sedatives in the form of cold-water dressings, poultices, &c.

When the inflammation abates, and the slough separates, stimulating dressings ought to be had recourse to. Nothing appears here to answer better than a weak solution of the sulphate of zinc.

Should, however, the sloughs continue to adhere after the inflammation has abated, some stimulating application, as the dilute nitric or muriatic acids, must be had recourse to, or even the stronger escharotics, as the concentrated mineral acids, the actual cautery, &c. The latter remedy is much in favour with French writers. In British military practice, the strong mineral acids are more generally used, and recently, on the banks of the Sutlej, proved most successful. Thus, the surgeon of the 29th Foot writes from that place: "In the treatment of this disease, I proceeded regularly on one plan, and found that so efficacious that I was not inclined to try any other. The plan adopted was, the application of the strong nitric acid, so as completely to cut off the diseased from the sound part, or so far sound part as only to be affected with inflammation. The acid, however, required to be rubbed in with the blunt end of the probe, so that it not only destroyed the cuticle, but killed the cutis vera, and probably the cellular membrane underneath. The narrow yellow ring of dead skin thus formed, separated like a piece of leather, generally carrying with it the whole slough, and leaving a clean, healthy surface, as well as edges to the wound. I never attempted to apply the acid to the surface underneath the slough, neither is such application necessary; the vital seat of the disease is on its circumference, however large its area. I must admit that the disease sometimes crossed the acid boundary, and a second, and even a third application of the remedy was required, but this was rare." (Report by Mr. Taylor, surgeon H. M. 29th Foot, quoted by Mr. Guthrie.)

11. *General Conclusions drawn by Mr. Guthrie, regarding the Nature and Treatment of Hospital Gangrene:* 1st. Hospital gangrene never occurs in isolated cases of wounds. •

2d. It originates only in badly ventilated hospitals crowded with wounded men, among, and around whom, cleanliness has not been too well observed.

3d. It is a morbid poison, remarkably contagious, and is infectious through the medium of the atmosphere applied to the wound or ulcer.

4th. It is possibly infectious, acting constitutionally, and producing great derangement of the system at large, although it has not been satisfactorily proved that the constitutional affection is capable of giving rise to local disease, such as an ulcer; but if an ulcer should occur from accidental or constitutional causes, it is always influenced by it when in its concentrated form.

5th. The application of the contagious matter gives rise to a similar local disease, resembling and capable of propagating itself, and is generally followed by constitutional symptoms.

6th. In crowded hospitals, the constitutional symptoms have been sometimes observed to precede, and frequently to accompany, the appearance of the local disease.

7th. The local disease attacks the cellular membrane principally, and is readily propagated along it, laying bare the muscular, arterial, nervous, and other structures, which soon yield to its destructive properties.

8th. The sloughing of the arteries is rarely attended by healthy inflammation, filling up their canals by fibrine, or by that gangrenous inflammation which attends on mortification from ordinary causes, and alike obliterates their cavities. The separation of the dead parts is therefore accompanied by hemorrhage, which in large arteries is usually fatal.

9th. The operation of placing a ligature on the artery at a distance, or near the seat of mischief, does not succeed, from the incision being soon attacked with disease, unless it has been arrested in the individual part first affected, and the patient has been separated from all others affected by it.

10th. The local disease is to be arrested by the application of the actual or potential cautery. An iron heated red-hot, or the mineral acids pure, or a solution of arsenic or of the chloride of zinc, or other caustic which shall penetrate the sloughing parts, and destroy a thin layer of the unaffected part beneath them.

11th. After the diseased parts have been destroyed by the actual or potential cautery, they cease, in a great measure, to be contagious, and the disease incurs less chance of being propagated to persons having open wounds or ulcerated surfaces. A number of wounded, thus treated, are less likely to disseminate the disease, than one person in whom constitutional treatment alone has been tried.

12th. The pain and constitutional symptoms occasioned by the disease, and considered as distinct from these symptoms, which may be dependent on disease endemic in the country, are all relieved, and sometimes entirely removed, by the destruction of the diseased surface; which must, however, be carefully and accurately followed to whatever distance and into whatever parts it may extend, if the salutary effect of the remedies is to be obtained.

13th. On the separation of the sloughs, the ulcerated surfaces are to be treated according to the ordinary principles of surgery. They cease to eliminate the contagious principle, and do not require a specific treatment.

14th. The constitutional or febrile symptoms, wherever or at whatever time they occur, are to be treated according to the nature of the fever they are supposed to represent, and especially by emetics, purgatives, and the early abstraction of blood, if purely inflammatory, and by less vigorous means, if the fever prevailing in the country is of a different character.

15th. The essential preventive remedies are separation, cleanliness, and exposure to the open air—the first steps towards that cure which cauterization will afterwards in general accomplish.

§ III.—*Injuries and Diseases of the Arteries and Veins.*

12. *Treatment of Aneurism by Compression in America.*—In connection with the corollaries of Dr. Bellingham on the treatment of aneurism by compression, which will be found in Vol. VIII. of the "Half-Yearly Abstract," art. 58, we subjoin the following condensed view (by the editor of the "Monthly Journal") of some cases reported in the "American Journal of Medical Sciences," Oct. 1848:—

Five cases of aneurism have been treated in this way, in the practice of Drs.

Buck, Rodgers, and Watson, of New York, Knight, of New Haven, and Mütter, of Philadelphia.

The first case was one of femoral aneurism, in which pressure was fairly tried and did not succeed, and it became necessary at last to resort to the operation by ligature.

The instance which occurred to Dr. Rodgers was that of a negro seaman, aged 47, who, two months before, observed a swelling in the popliteal region, which arose after a fall. The tumour was of the size of a duck's egg, and the symptoms of aneurism were well marked. He entered the New York Hospital, and on the 15th of January, 1847, pressure was made upon the artery near the groin by means of an arterial compressor. This was continued till the 12th of February: but it being found impossible to effect the desired object with it, Dr. Rodgers substituted another, consisting essentially of a metallic plate placed upon the inner side of the thigh over the vessel, having three holes at short intervals through which screws passed, each having, at one of their extremities, a firm pad, and at the other a projection to which a key was adapted, by means of which pressure could be made upon the femoral artery at the different points. This metallic plate was secured over the artery by means of broad straps attached to a sliding plate of steel, secured in a metallic bar, applied longitudinally to the back of the limb.

Soon after the adjustment of this instrument, it was ascertained that the patient loosened the screw in the absence of his attendant. He was now watched night and day for three days, by the end of which time all pulsation in the tumour was entirely arrested. The swelling gradually subsided to half its original size. The only inconvenience experienced by the patient was a numbness of the limb upon the first removal of the instrument, but this soon left him, and he was discharged cured on the 13th of April.

The case of Dr. Watson was one of femoral aneurism, treated also at the New York Hospital. The subject of it was an intemperate Irish woman, aged 38. The tumour, which was hard and painful to the touch, had existed for a month, and extended from the upper and inner third of the thigh to within a finger's breadth of the internal condyle of the femur, and at the point of its greatest circumference, reached from the inner border of the rectus muscle to the middle of the outer side of the thigh.

At mid-day, on the 23d of September, 1847, pressure was made by means of two pads secured to circular straps over the artery, with counter-compresses on the outer side of the thigh, the pressure produced being regulated by a screw which acted directly upon the pads over the vessel. The first compress was fastened over the artery just as it emerges from beneath Poupert's ligament; the second, a short distance below it; and both were so arranged as partially to control the circulation in the tumour, the pressure being regulated by alternately tightening one compress and slackening the other, in order to prevent abrasion of the integument.

On the 24th, the patient was restless; on the 25th, she complained greatly of cramp and pain in the leg, which was much swollen, to relieve which a roller was applied and the limb elevated on a pillow.

By the 26th, all pulsation had left the tumour. The upper compress was now removed—sixty-eight hours having elapsed from its first application, and very slight pressure was kept up by means of the lower one. No return of pulsation followed the removal of the compress, and in an hour afterwards the lower pad was also taken away. The skin beneath the upper compress had become somewhat abraded by the pressure, which required the application of a poultice, and subsequently simple dressings for a few days.

On the 28th, no pulsation could be detected in the tumour, or in the femoral artery below the point, upon which the upper pad had rested.

By the 28th of October, the tumour had much diminished in size, and become softer.

On the 12th of November, nearly two months subsequent to the commencement of the treatment, she left the hospital well, the tumour still gradually becoming smaller. There was no pulsation to be detected in the anterior or posterior tibial arteries, or at any point below the giving off of the profunda;

and the femoral artery itself below that point was felt like a solid cord beneath the integument.

The case furnished by Dr. Mütter was that of a book-keeper, aged 41, whose general health was feeble, and who, six weeks previous to the 24th of Sept., 1847, had been seized with stiffness in the right ham, which was soon followed by a pulsating tumour of the size of a turkey's egg. After a few days' rest in the horizontal position, his treatment was commenced by applying a roller to the limb in order to prevent swelling, and the application of one of Charrière's compressors, with a small oval pad over the femoral vessel, where it passes down to become popliteal, and another similar compressor with a larger pad over the artery at the upper third of the thigh. The limb was then placed upon an inclined plane. After remaining in this position for twelve hours, the lower compressor was tightened until all pulsation ceased in the tumour. The pain produced by this procedure was severe, and could only be borne at first for half an hour. When it became insupportable, the upper compressor was screwed down, and the pressure from the lower one removed. The patient supported the pressure above for two hours without much difficulty; it then became annoying, and, in order to relieve the suffering, the lower compressor was again tightened.

By thus alternating the points to which it was applied, the necessary amount of pressure was kept up without excoriation, or any other injurious consequence resulting, and from the peculiar construction of the instruments, and the previous application of the roller, the swelling of the limb was trifling. During the treatment, the diet of the patient was restricted, and digitalis was administered to him.

By the 12th day, the tumour was reduced to about half its original size, had become solid, and was free from pulsation. Notwithstanding these circumstances, Dr. Mütter did not consider it safe to allow his patient to move about, or even to relax the treatment, but continued to pursue the same course, with slight modifications, for six weeks longer. At the expiration of this period, the tumour had nearly disappeared, the collateral circulation was fully established, and the disease radically cured.

Dr. Knight's case, which is peculiarly interesting, from the novel manner in which the pressure was made, and quickly effected a cure, was that of a mulatto man, aged 48, in whom a popliteal aneurism had existed for several months. The aneurismal tumour, which was well marked, filled up the whole popliteal space. The leg was very painful and oedematous. After the oedema was removed by rest and other appropriate treatment, pressure on the artery, by means of the hoop tourniquet, the calliper-shaped instrument, the common tourniquet, guarding the limb against pressure of the strap by encasing it with thick sole-leather, and by a variety of other mechanical contrivances, was fairly tried. By whatever instrument, however, the pressure was made, and however carefully it was guarded, whether continued on one point only, or shifted from one part of the artery to another, the pain became in a short time so severe that it could not be endured. The pain complained of was not in the part pressed upon by the instruments, but was felt equally in the thigh and below the knee, and occurred whether the limb was left uncovered or was enveloped in a roller. It usually began in twenty-five or thirty minutes after the pressure was made, and became intolerable in fifteen or twenty minutes longer, and could be continued in no instance beyond one hour. These efforts were persisted in for eight or ten days, and as nothing had been gained at the end of that time, were abandoned. Before resorting (says Dr. Knight) to the ligature of the artery, I concluded, with the concurrence of his physician, Dr. Tyler, to try manual pressure upon the vessel. "To accomplish this, a sufficient number of assistants were procured from the members of the medical class, who cheerfully offered their services. They were divided into relays, two keeping up the pressure for five or six hours, relieving each other every hour, or half hour, and these succeeded by two others. Sufficient pressure to arrest the pulsation in the tumour was found to be most easily made with the thumb or fingers, without a compress, upon the artery as it passes over the os pubis, and the direction given to the assistants was to keep up this amount of pressure as nearly con-

tinuously as possible." This treatment was commenced at three o'clock, P.M. No pain of consequence was produced by it for five or six hours, and then it was not severe, and was quieted by the eighth of a grain of morphia once or twice repeated. About eight hours after the pressure was applied, the temperature of the limb was diminished, and it appeared shrunken in size. Upon removing the pressure from the artery at eleven o'clock of the following day—twenty hours from the commencement of the treatment—the tumour was found to have diminished very little, if at all, and pulsated as strongly as before; but the tibial arteries could not be felt. The treatment was continued. Upon examining the parts the next morning, forty hours after the treatment was begun, the tumour was found to be nearly one third less in size, firm and unyielding on pressure, and entirely without pulsation. All treatment was then discontinued. The femoral artery pulsated with its usual strength in the groin, and distinctly as far as its passage through the tendon of the adductor muscles. Between this point and the tumour, it could not be felt. Several of the anastomosing arteries, especially one upon the inside of the limb, could be distinctly traced passing over the knee, pulsating strongly, and enlarged in size. From that time to the present—a period of more than four months—no change has taken place in the limb, except that the tumour has gradually diminished, so as now to be scarcely discoverable, and that the leg, which was at first cold and weak, has nearly regained its natural temperature and strength.*

In addition to these cases, the following remarkable case is reported in the "New York Journal of Medicine" for July 1848. The subject of the case was a coloured man, aged between 50 and 60, in whom Dr. Hosack tied the femoral artery at the lower part of the upper third of the thigh for popliteal aneurism, about the size of a small goose-egg. Upon securing the artery in the ligature, all pulsation in the tumour ceased; the wound being dressed in the ordinary way, healed kindly in the usual time, casting off the ligature on the 26th day: after which, the swelling continuing gradually to decline, left the patient to all appearance perfectly well, with the exception of a slight halt in his gait, which entirely disappeared after a few weeks. About the middle of the following August, he returned to Dr. Hosack with the tumour of nearly the size it was at the time of the operation, but it had not the same elasticity, and was more solid to the feel. Pulsation was distinctly to be perceived in the tumour, and could be detected in the femoral artery quite up to the point at which the ligature had been applied, as well as in the tibial branches, but with diminished force. Under these circumstances, Dr. Hosack determined to make trial of compression. Preparatory to the application of the instrument, the patient was directed to remain quietly in bed for three or four days, which being complied with, the instrument was adjusted, and pressure exerted upon the femoral artery, so as to arrest completely all pulsation in the tumour; after an hour or more, it became necessary, in consequence of pain produced by pressure, to shift the pad an inch or more from the point just compressed, and so changed from time to time, as circumstances required; but, having one plate or pad instead of three (the other two being an addition of Dr. Rodgers, which certainly is an improvement), Dr. Hosack was compelled to make compression upon the artery as it passes over the pubis, while changing the position of the pad. The instrument was thus continued until after the fifth day, when, finding no pulsation in the tumour, it was removed. After a lapse of a fortnight or more, a slight thrill was to be detected in the aneurismal sac, when the instrument was reapplied for thirty-six hours longer, varying the pressure on the artery as circumstances required. Pulsation or thrill being no longer discoverable in the tumour, which had now become more solid, compression was taken off; since which time the patient has been able to take exercise, and attend to his usual occupation, being perfectly restored to health.†

—In the Report of the Committee on Surgery, in the "Transactions of the American Medical Association," already quoted, there is a very favourable summary of the results of this method of treatment.

* Transactions of the American Medical Association, 1848.

† Monthly Journal, December 1848.

13. *On the Operation for Tying the Subclavian Artery internal to the Scaleni Muscles.*—Dr. Hargrave* has endeavoured recently to investigate this subject.

The statistics for securing the right subclavian artery in the first part of its course, or internal to the scaleni muscle, afford, as Dr. Hargrave well observes, a melancholy and almost desponding history of this operation as to its ever being successful. Every case on record of securing this vessel (*ten*) has been a failure, whether performed in Great Britain, in Ireland, in the colonies, or elsewhere; to all the same fatal termination—death, and all by the same fatality—hemorrhage.

The following are the four causes to which Dr. Hargrave attributes the failure of this operation:—

1st. To the anatomical position and relations of the vessel.

2d. To the great disturbance, perhaps destruction, of the nutrition of the artery caused by the difficulty of the operation.

3d. To the tension of the artery after the ligature is tied.

4th. To the pathological conditions of the artery itself.

"Such," he adds, "after considering each of these in detail, seem to me to be the causes which mainly act in rendering the operation as hitherto performed unsuccessful; can any of them be obviated? I incline to the opinion that the chief one can, namely, the impediment to a quiescent, if not an absolute, state of repose for the artery, the want of which has already been pointed out."

It has been proposed, to facilitate the operation for securing the vessel in question, "*to save the clavicle*," which would certainly afford more space for the subsequent dissections. This suggestion is borne out by performing the operation on the dead body. Cruveilhier has also advocated such a practice.

14. *New Method of Operating—Section of the Clavicle.*—It is this step in the operation which I would again propose, not so much for the facile exposing of the artery, but to allow it to be gently relaxed. After having been secured, the section of the clavicle would allow this to be done, by permitting approximation of the shoulder to the trunk, and so remove any strain or tension that the ligature might cause on the artery. It would also remain more imbedded in the surrounding cellular membrane, and receive the supply of blood more freely to assist in the sanitary processes consequent on the operation; while the movements of the upper extremity would produce little, if any, disturbing effects upon the artery.

Mode of performing the operation. The mode of conducting the operation I propose would be, after the vessel was exposed and encircled in the ligature, carefully to saw through the clavicle about its middle, having previously guarded the subjacent parts with a spatula. If any alterations followed this step in the relations of the artery, they would be of little consequence, it being noosed prior to the section of the bone; no delay or hindrance would then prevent the tying of the artery. The action of the muscles which draw the shoulder to the trunk, as the subclavius and pectoralis minor, should then be aided by position, and the arm retained *in situ* by a bandage.

15. *On the Utility of Double Ligatures for certain Arteries.*—In the "Monthly Journal" for March, 1843, we find a communication on this subject quoted from the "Gazette des Hôpitaux," by M. Chassaignac. The object of this paper is not to inculcate the use of the double ligature as a general rule, but merely to point out what the author considers its benefit in certain special cases, especially in that of the common carotid. He points out, first, that, when a ligature is applied to the carotid, it is subjected to a double shock at each pulsation—one direct from the heart to the artery, the other propelled from the terminal divisions of the artery towards the trunk of the vessel; in a word, he calls the first of these the direct, or cardiac impulse—the second, the indirect, or recurrent impulse. Admitting, then, he says, that it has been shown that every ligature applied on the carotid is subjected to a double impulse on the part of the blood, which strikes against it both by the direct and indirect current, I consider this circumstance as likely to give rise to the premature falling off of the ligature and secondary hemorrhage. Is not the means to avoid this double impulse on

* Observations on some Practical Questions in Surgery. Dublin Quarterly Journal, February 1849.

one ligature to apply two distinct ligatures—the one to bear the direct, the other the indirect impulse? We oppose a double resistance to a double force. But there is one particular case in which, perhaps more than all others, it is of importance to avoid the indirect impulse; that is, when a ligature is applied to the carotid, according to Brasdor's method, in a case of aneurism of the innominata. What do we propose by this method of operating? Is it not to obtain, as far as possible, the coagulation of the blood in the aneurismal sac? But it is known that all movement obviates this coagulation, and, therefore, the indirect impulse against the ligature can only be regarded as an unfavourable condition; the way to remedy it is to apply a double ligature.

As conclusions from the preceding statements, he submits the following propositions: 1. If the double ligature ought to be rejected as a principle of general rule, this practice ought not to be absolutely condemned without exception, and indiscriminately. 2. Every ligature applied to the carotid ought to be considered as subjected to the constant action of a double impulse—the one *direct*, the other *indirect*. 3. It is useful to apply a double ligature to the common carotid, as well as to every large artery which presents a strong recurrent circulation. 4. The use of this double ligature is still more obvious in cases where the carotid artery is to be tied in operating by the method of Brasdor.

16. *On the Employment of Ligatures formed of Animal Substances.*—In the same journal, we find a communication on this subject by Mr. Wragg. The substance which Mr. Wragg prefers is the fibrous tissue of the deer dried, then twisted so as to form a small round thread, smooth and regular on the surface, non-elastic, sufficiently strong to resist the traction made on it by the surgeon in tying the knot. The mode of preparing these ligatures appears to the author to be a matter of great importance, and one capable of insuring or compromising the success of the operation. These tendinous slips ought to be dried slowly, and not used until all the moisture has disappeared; the author prefers those which have been dried for some years. One objection that might be raised against these ligatures of animal substances is, that they do not determine the degree of inflammation necessary for the obliteration of the artery; but this fear must yield to the testimony of all the surgeons who have found in this practice a sufficient hæmostatic remedy. This is not the reason why it has been rejected by some medical men, but rather because they doubted whether the substance of these ligatures could be effectually absorbed, and disappear amongst the tissues; the experience of Mr. Wragg fully replies to these apprehensions. During the ten years that he has employed these ligatures, he has never used any others; and, during this period, he has tied arteries in the fingers, hand, forearm, arm, leg, and thigh, and has never seen any symptom to show that the absorption of the knot had not taken place.

§ IV.—*Injuries and Diseases of Bones.*

17. *Compound Dislocation of the Humerus.*—Under the section of rare surgical cases, art. 62, we have recorded a case of this rare accident, compound dislocation of the humerus, as recorded by Mr. Haynes Walton.* The following remarks, appended by Mr. Walton to his paper, will be read with interest in connection with this rare case:—

The only two similar cases which have been recorded are narrated by Sir Astley Cooper and Mr. Fergusson. I shall first give that of the former author. (Work on Dislocations, page 450.) “The accident occurred in the practice of Mr. Dixon, of Newington, who thus describes it to Sir Astley Cooper. Robert Price, 55 years of age, on returning in a state of intoxication from the Borough, fell down upon his shoulder. Upon examination, I found the head of the bone had passed through the integuments of the axilla, lying exposed upon the anterior part of the chest, and situated over the pectoral muscle on the right side. The reduction of the dislocation was easy, being performed without the necessity of raising him from the state of stupor and insensibility he was lying

* Medical Times, November 18, 1848.

in, by the usual method of extension and counter-extension, taking care only to guide the bone into the glenoid cavity; he was then put to bed, and an evaporating lotion applied. On the following morning, considerable pain and tension had come on; he was bled and purged freely; a large poultice was applied over the joint, and anodynes given to lessen pain and procure sleep: leeches were frequently applied in the neighbourhood of the joint for the first ten days, or fortnight, after which a copious discharge of pus issued from the wound in the axilla. The constitution now felt the effects of so important an injury: he became irritable, fretful, and lost flesh; healthy pus was now discharged freely from the joint for ten or twelve weeks, when it somewhat abated. A succession of small abscesses, situated in the cellular membrane surrounding the joint, were exceedingly troublesome for several months, some of which formed extensive sinuses and required to be freely dilated. The discharge of pus was kept up from the joint for nearly twelve months, when it finally ceased, leaving the joint ankylosed, and the wound closed. He was quite recovered in fourteen months from the accident, at which time he called on me, and felt gratified by showing how freely he could make use of the forearm, and handle the pen for all the purposes of business. He is still living in Paradise Row, Stockwell, and employed by the parish of Lambeth as a collector of assessed taxes."

Sir Astley Cooper makes the following remarks: "Such a case will require an immediate reduction, by the means which I have described for the dislocation of the os humeri forwards; and, in general, the more violence done to the injured limb, the more easy is the reduction, from the diminution of the constitutional powers which so great a shock produces. When the bone is replaced, lint dipped in blood is to be applied to the wound; or, if the wound be large, a suture should be employed, and then the lint applied. Adhesive plaster should be used to support approximation, and the limb must be kept close to the side by means of a roller applied around the body, and including the arm, thus preventing the least motion of the head of the bone; by these means the suppurative inflammation may be prevented, and the cure proceed without protracted suffering, or any danger to the patient's life."

Mr. Fergusson, in his "Practical Surgery," page 198, says: "I have seen one example of compound luxation of this joint. It was occasioned by the spoke of a large water-wheel, which, in revolving, came in contact with the arm, caused a rent through the deltoid and skin, and thrust the end of the humerus prominently outwards. The patient, though stunned, was not seriously injured elsewhere; yet it was thought advisable to amputate. The state of shock continued for several hours; and the operation, partly on this account, and also to give time to procure instruments, was delayed till next morning. Meanwhile the head of the bone was replaced, which was easily done, and the edges of the wound were brought together. When the surgeons met again, the man seemed in such a favourable state, and the parts looked so well, that it was wisely resolved not to use the knife. The wound closed without a bad symptom; a slight synovial discharge continued for about three weeks; and some months after, I saw this individual in excellent health, and already able to make a tolerable use of the injured arm."

Although the three cases possess the common feature of dislocation with external wound, they differ in the direction assumed by the head of the humerus, as also in other particulars that I need hardly point out.

It is surprising that the integrity of the humerus, in my case, should have been preserved, since the application of the force was through the shaft of that bone, and, in all probability, was applied about its middle; for the shirt and jacket-sleeves were much torn at that spot, and uninjured at any other part. The mobility of the scapula, whereby it accommodates itself to the motions of the arm, together with the dislocation occurring at the weakest part of the joint, must, I think, be considered as circumstances tending to prevent fracture. From the extent of damage done the soft parts, and particularly to the skin, it is evident that the humerus must have been greatly twisted, and carried from before to behind, or in the opposite direction, with great violence. In Mr. Dixon's case, the violence was received at the head of the bone, and therefore

fracture was not a likely complication. It cannot be gathered, from Mr. Fergusson's description, the precise manner in which the accident he relates occurred.

I cannot refrain from noticing the important lesson the latter case inculcates. The fortunate occurrence of delay resulted in the salvation of the patient's arm. How many parallel results have been obtained, and what practical information has accrued from circumstances that appeared to be untoward interruptions to the surgeon's intentions!

From the result of these three cases, it must now be received as a settled point, that, in compound dislocation of the humerus, without injury to the great blood-vessels, or to the brachial plexus of nerves, as a general rule, the proper treatment is, to reduce the dislocation, and endeavour to effect union of the lacerated parts. That instances might arise in exception to this rule, no practical surgeon will doubt; but it would be out of the scope of this paper to say more than is necessary to point out the fact that the cases related establish.

There was no difficulty in reducing the dislocation. I was not aware when the head of the bone returned to the glenoid cavity; it was by passing my finger into the wound during the extension, to ascertain what progress was being made, that I discovered the reduction had been accomplished; probably it had been effected in a shorter time than is specified in the notes.

The suppurating at the side of the chest seemed to have been in the tract of detached skin, for pus escaped at the axilla when pressure was made on the collection at the side; but, as its discharge could not be naturally effected through the wound, I made an incision for its free exit. The patient's recovery was decidedly rapid: in twenty-four days, the arm was liberated from all bandages, and he performed the under motions tolerably well. On the 11th of March, the wound had quite healed. There was very little bleeding when the accident occurred. Although a large piece of the latissimus dorsi muscle was removed, that muscle still retained some connection with the humerus.

I saw the patient two years after his dismissal from the hospital: he was pursuing his usual avocations; he had gained power in the use of the arm, and could nearly raise it at a right angle to his body. The deltoid muscle was quite atrophied: this must, I suppose, be attributed to injury of the circumflex nerve.

18. *Excision of the Head of the Femur.*—In the last volume of this Journal, will be found an abstract of a paper by Mr. Smith on this subject (art. 62), and in the Report on Surgery in the same volume, some observations are made on the objections against this operation urged by Mr. Norman.

Since the date of these articles, Professor Syme, whose opinion is entitled to the highest respect on all points connected with the science of surgery, has expressed an unfavourable opinion of this operation. We subjoin a summary of the consequent discussion, as contained in the "London Journal of Medicine:"—*

A difference of opinion exists between Mr. Syme, of Edinburgh, and Mr. Fergusson, of London, as to the operation of *excision of the head of the femur*.

Four years since, Mr. Fergusson revived the operation, which had been performed with success, about thirty years previously, by Mr. Anthony White. Mr. Fergusson's case was entirely successful; and, in consequence of this, he has recommended the operation for certain cases. He and other surgeons have since resorted to the operation with more or less satisfactory results. Mr. Syme, however (perhaps from an imperfect knowledge of the facts), has entered a strong protest against the proceeding; and argues that it should never be put in force. He says, in a clinical lecture reported in the "Medical Times" for December 30, 1848: "If caries supervene, no human means can remove the disease. Lately, in some of the London hospitals, it has been attempted to cure the disease by removing the carious head of the femur; but this is improper, as caries of the joint never exists without the bones of the pelvis being equally involved. I regret that these operations should have been attempted, as they tend to throw discredit on the excision of other joints—such as the elbow, where the practice is eminently useful, and which has now become an

established operation in surgery. If the disease admits of recovery, excision of the head of the thigh-bone is superfluous and useless. If it does not admit of recovery, cutting out the head of the thigh-bone can only hasten the fatal termination. If the patient recovers after the head of the bone has been cut out, it is a distinct evidence of the uselessness of having excised it. If caries is curable, why amputate the head of the bone? If incurable, why remove the head of the bone, and, at the same time, leave behind carious portions in the acetabulum, which cannot be removed? Common sense, and their unsuccessful results, will, no doubt, ultimately show the impropriety of such operations."

These remarks of Mr. Syme are commented upon by Mr. Henry Smith, in the "*Lancet*" for January 6, 1849. This gentleman was formerly house-surgeon to King's College Hospital, and has had the opportunity of witnessing and assisting in the operations of excision of the head of the femur, performed by Mr. Fergusson. He has specially studied this subject, and is the author of an essay on the operation. He considers that Mr. Syme's main objection to the proceeding does not hold good: that his assertion that "caries of the joint *never* exists without the bones of the pelvis being equally involved," is neither in accordance with facts ascertained by the pathologist, nor by post-mortem specimens of the disease; and that it is rendered invalid by the results of the operation itself, which has proved successful both in this country and abroad.

The circumstance of disease implicating the pelvis, in a great number of instances, is a serious objection to the operation: but yet the existence of a moderate amount of disease in the acetabulum should not, Mr. Smith alleges, prove a bar to the performance of the operation, where there is no other contra-indication, as it may be got at and removed by proper instruments. "in the same manner as carious portions of the scapula may be removed in the operation of excision of the head of the humerus."

With respect to Mr. Syme's other objections, Mr. Smith states that it is not in those cases which admit of cure that the surgeon would perform the operation; but that it is in cases where the affection has gone so far that there is no hope of saving the patient by any other means, and there is good reason to suppose that the head of the bone is alone, or chiefly diseased, the surgeon is justified in resorting to it.

In the "*Lancet*" of January 21, are reported some clinical remarks, delivered after an operation, performed on the 13th January 1849, by Professor Fergusson. His views, as there expressed, are similar to those of Mr. Smith, and entirely opposed to those of Mr. Syme. He strongly recommends excision of the head of the femur in certain instances; and says that the disease, involving the acetabulum, to a certain extent, is not an absolute objection to the operation, as this diseased portion may be removed. He points out that, in some instances, when the cotyloid cavity has been originally attacked, the disease stops, and a deposit of new bone takes place, filling up the cavity, as was found to be the case in the patient he had just operated upon: whilst, if the head of the bone be extensively carious, there is little probability of its separating; therefore, the surgeon is called upon to do the operation.

Thus, it appears that two of our most eminent surgeons promulgate opposite opinions respecting a most important point of practice. Mr. Syme, we think, is premature, in his summary condemnation of the operation. It is true that there are great difficulties connected with the selection of cases; but it is equally true, from the results obtained by Mr. Fergusson and others, that it may, in certain instances of hip disease, be undertaken with great propriety; that life may be saved, and a limb, more or less useful, preserved.

— Mr. Fergusson has again reiterated his views in a clinical lecture on hip disease, "*Medical Times*," April 7, 1848.

§ V.—*Injuries and Diseases of the Head and Neck.*

19. *Observations on Enlarged Tonsils.*—The following observations are deduced by Dr. Hamilton, M.D., of Buffalo,* from the history of fifty-two cases, which have come under his observation:—

Pathology.—In all the cases, the glands have been simply enlarged and slightly indurated, except that, in six or eight instances, a few small tubercular deposits have been found in them. I have never seen them scirrhus, or affected with any other malignant disease. Of some fifty or more preserved in alcohol, and in the College Museum, not the slightest difference can be seen in their structure; and, as to size, the largest is not more than sixteen lines in length, and eight in breadth.

Etiology.—Among the causes assigned by the parents and friends, or by the patients themselves, ten are set down as attributed to scarlatina, seven to whooping-cough, three to croup, eighteen to hereditary predisposition, as shown in its having occurred in the parents or other members of the family, and the balance are unaccounted for. Many of these patients had a scrofulous look, and some had, at the same time, enlargements of the lymphatic glands of the neck.

Age at which the enlargement was first noticed.—Generally between the third or fourth and seventh year of life: from which time, they gradually increased in size until the tenth or fifteenth year, or, until they were removed.

Effects and results when left to themselves.—They gradually diminish in size after the tenth or twelfth year, and finally disappear, or rather, become reduced to their normal size; so that it is extremely rare to see enlarged tonsils after the twentieth year. I have never seen but one after the twenty-seventh year, and this was at the forty-second year, but the enlargement was moderate.

In the mean time, however, or, at least, during all the period of childhood, the patient is liable to frequent attacks of acute tonsillitis, which alone are sometimes sufficient to permanently impair the health; to a serious impediment in speech and hearing, both of which, I think, may become permanent, but in proof of this supposition I cannot cite any cases: it is certain, however, that it often interferes materially with the education of the child. Such children are almost always dull in their studies, or timid or petulant in their manners and feelings. They are also liable to severe attacks of croup in early life, and later, to more chronic bronchial affections.

Local or general therapeutic treatment.—Of this, I have but little right to speak, since I have myself seldom resorted to any other means than extirpation; and I have not, because I have seldom heard of a cure clearly traceable to these measures, but especially because I have found the operation so simple, certain, and safe. If anything can be said in defence of therapeutic means, I would rather leave it to those who have themselves experienced their advantages.

Circumstances contra-indicating an operation.—The operation of excision ought not to be made when the glands are *inflamed*, unless the patient is threatened with suffocation, since the operation is then more difficult, more painful, and is more liable to be followed by fatal inflammation (I have seen the operation made upon a child, whose tonsils were at the time inflamed, terminate fatally in a few days from inflammation extending to the larynx), but especially because the danger from hemorrhage is then much greater. A friend of mine, a clergyman, applied to me to excise his tonsils, but I declined because they were inflamed. He went next day to New York city, and called immediately upon a famous tonsil-cutter, who shaved them off at once, and the wounds bled during three days. The bleeding was finally arrested by the hot iron, but not until life was almost extinct.

They ought not to be excised when no other reason can be assigned than that they are enlarged.

We should prefer not to make the operation where the patient has a hemorrhagic diathesis.

Circumstances which indicate an operation.—It ought to be made when, from

* The Medical Examiner (American), No. XXXVII.

their size, the patient is in danger of immediate suffocation, in whatever condition they may be. It ought to be made, having first removed all inflammation, when they produce deafness or impair speech, or occasion frequent attacks of tonsillitis, or occasional attacks of laryngitis, or endanger the development of chronic bronchitis, or of phthisis in persons already predisposed. Or it might be proper where, as in one case, which will be stated hereafter, the glands were affected with an obstinate neuralgic disease.

Age at which the operation can be made, and at which it is usually made.—Three of my operations were made upon children two years old, but at this age, owing to the smallness of the mouth, the operation is more difficult. I have made one upon a man aged forty-two, but the large majority have been made between the ages of four and ten years.

Mode of operation.—No one now questions the superiority of excision to the old, tedious, and terribly painful process of ligation. The last argument upon which the ligature was sustained—viz., that the knife was the most dangerous, because of the hemorrhage which might follow—has long been given up: for we know that, if some little danger does actually exist from the hemorrhage, it is much more than counterbalanced by the danger which attends the inflammation inevitably consequent upon the use of the ligature. I have never used the ligature myself, but I remember to have seen it used when I was an apprentice, and I can assure those who have never witnessed it that it is one of the most barbarous operations in the surgical catalogue.

Results.—If no good reason can be assigned why the gland should not be removed more fairly than is generally recommended, a sufficient reason can be assigned why it *ought* to be. When the whole or two-thirds of the gland is cut away, no more trouble is experienced from this source; but when one-half or one-third is removed, the balance does not generally disappear, and not unfrequently it again enlarges. This remark does not agree with the experience of some surgeons who have written upon this subject, and who, believing that, if one-half or one-third is cut away, the remainder will soon disappear, do not think it necessary to remove more than half at any time. But I have again and again seen cases, in which the operation was thus imperfectly made, return to have them re-excised. Some of these have been my own cases, and in which I predicted at the time that the glands would be very likely to trouble them again. In no case, however, in which two-thirds have been removed, have the patients returned.

Neither the speech nor the hearing is improved until after the lapse of months after the operation is made. I have never known the speech to be *injured* by the operation; the apprehensions which some have felt upon this score do not seem to me to be well founded.

20. *Cleft Palate.*—A very able paper on this subject, with reference particularly to the new operation of staphyloraphy, by Professor Fergusson, is contained in the January number of the "London Journal of Medicine."*

The originality of this communication induces us to enter more fully into it than our limits, under ordinary circumstances, enable us to do.

The views (says Mr. Fergusson) regarding this malformation, and the particular operation resorted to for its relief, are as yet, I believe, so little known to the profession, that I trust I may not be deemed presumptuous in again endeavouring to draw the attention of my brethren to subjects which, I am disposed to think, have had less consideration than they really deserve. In France, in Germany, and in America, many distinguished surgeons have written upon staphyloraphy, and numerous examples have been given of the success of the operation; but, strange to say, the proceeding has attracted little more than casual notice from the surgeons of Britain. Since Alcock first performed the operation in this country in 1821, it has been frequently repeated, but at dates so few and far between, that success, when achieved, has produced but little impression either upon the profession or the public. With few exceptions (among which I may refer to the brilliant examples occurring to Sir Philip

* Observations on Cleft Palate, with cases illustrating the new operation of Staphyloraphy: by William Fergusson, F. R. S., &c. London Journ. of Medicine, No. 1, Jan. 1849.

Crampton*), the results of surgical interference have been so unsatisfactory, that teachers have done little more than describe the process which was followed by Roux, to whom the honour is due of having devised and first performed the operation. My own personal experience in early life, in such cases, had led me to conclude that an operation could only be successful in the most favourable instances, and it was not until I had made a careful anatomical examination of the parts, that I became convinced that more might be done by the surgeon than had yet been accomplished. At least, it appeared to me that the operation might be put upon a more scientific basis, and that surgeons might be made aware of the nature and effects of the hap-hazard collateral incisions which had been proposed for the purpose of relaxing the soft palate during the period required for union in the mesial line. Roux's experience in the operation had been great, and his success was deemed very satisfactory—two-thirds of the simple cases, and one-third of those which were complicated, having derived benefit from the proceeding. My friends, Dr. Mütter, of Philadelphia, and Dr. J. M. Warren, of Boston, had achieved much greater proportional success: for out of twenty-one operations, Dr. Mütter had succeeded in nineteen; and Dr. Warren had been equally successful in thirteen instances out of fourteen. Results like these might well content the most sanguine.

The anatomy of cleft palate.—The extreme mobility of the two portions of the soft velum in cleft palate had attracted the notice of all observers, but little, if any, attention had been directed to the moving powers. It was the custom, in examining a case of the kind, for the purpose of determining upon an operation, to be guided by the facility with which the two portions of the uvula come together during deglutition. If a person with cleft palate be desired to swallow a little water, slowly and with the mouth partially open, the back parts of the fissure may be seen to approach each other, and in most instances actually come into contact. If they seem to do so readily, the prospects in this respect are favourable for an operation, and *vice versa*. The cause of this movement had never, I believe, been inquired into. So accurate an observer as Malgaigne† had been content to state that it was “a muscular action of which it is difficult to give an explanation.” The movement is clearly attributable to the superior constrictor of the pharynx, and the upper portion of the middle constrictor. The semi-circle, which these muscles form on the back and sides of the pharynx, is, during deglutition, drawn into a straight line almost, the fibres come forward, inwards, and some of them downwards, so that the soft structures immediately in front—being the two portions of the split palate—are pushed in similar directions, and thus the posterior part of the fissure is made to close. The anatomist is more familiar with the action of pulling than that of pushing, as the result of muscular contractions. The lateral movements of the soft margins of the fissure could not escape observation, but, in so far as I know, they had never been accounted for. Doubtless any anatomist would have guessed that the levatores palati caused the elevation of these parts. He could not, however, have supposed that the palato-pharyngei could enlarge the fissure: on the contrary, in accordance with the doctrines of Dzondi and Müller (which are those usually entertained), he might suppose that these last-named muscles would in reality close the fissure; for their action, in the normal state of the parts, is to bring together the posterior pillars of the fauces. An examination of the course of the fibres of these muscles in the cleft state of the palate will show beyond a doubt that one of their actions will be to pull the edges asunder: in this state of the parts, the anterior or upper extremity of each muscle is attached to the posterior margin of the osseous palate, and the fibres, in their progress downwards towards the sides of the pharynx, form a convexity upon the margins of the soft flap (in fact, it is this convex part which constitutes the most bulky portion of the flap): thus the action of each muscle tends towards the straight line, the parts are drawn asunder at such a time, and consequently the gap is enlarged. In the ordinary condition of the palate, these muscles have their fixed points above in the mesial line of the soft palate; and acting towards that

* Dublin Journal of the Medical Sciences, July 1, 1843, vol. xxii.

† Médecine Opératoire, Paris, 1834, p. 486.

line, they must necessarily close or cause the posterior pillars to approximate, in accordance with their supposed functions. Perhaps, during deglutition in the cleft state, the upper margin of the superior constrictors forms, for the instant, a kind of fixed point, which permits the lower portions of the palato-pharyngei to act in the normal manner: but, during the quiescent state of the constrictor muscles, the palato-pharyngei, when exerted to action, must tend to enlarge the fissure in the mesial line. The tensor (or circumflexus) palati seemed to me to possess so little muscularity, and besides to have such a limited sphere of action, that I deemed its influence upon the movements of the palate as of little consequence, and I entertained similar views with regard to both the palato-glossus and azygos uvulæ.

Principle of the operation of staphyloraphy.—In accordance with these anatomical and physiological data, I inferred that, if the chief muscular action affecting the soft palate could be done away with—either for a short time or permanently—there would be a greater probability than ever of union taking place in the mesial line when the parts were united by the process of staphyloraphy, and on this principle the proceedings which I recommended were founded. As a preliminary step to the ordinary operation, I suggested the division of the levator palati on each side, and also, if it seemed needful, of the posterior pillars of the fauces, whereby large portions of the palato-pharyngei might be cut across. I also then thought that the anterior pillars, each containing the palato-glossus, might possibly require division. To effect these different incisions, I used a small, peculiarly-curved blade* for the levator muscle, and common curved scissors for the others.

In a large proportion of cases of cleft palate, the fissure implicates a portion of the bones as well as the soft velum. Such cases are never so favourable for an operation as when the soft parts alone are involved. When the bones are defective, the soft margins are usually narrow, the gap being wide in proportion, and invariably the muscular movements of the flaps are more conspicuous than when the fissure is limited to the soft velum. In the natural state of the palate, the muscular movements are not so remarkable as in the abnormal condition. I do not think that even the levators or palato-pharyngei act with such energy as in the cleft state, and the greater the cleft, I am disposed to say, the greater is the muscular action. This does not depend upon increase of muscular fibres, but rather arises from the comparative mobility of the parts. The smaller the fissure, then, the less conspicuous are the muscular actions—the nearer the normal state, the greater the resemblance in action to the ordinary muscular movements.

Steps of the operation.—When I first drew attention to the anatomy of the cleft palate, and pointed out the motor powers likely to prevent the success of the ordinary operation of staphyloraphy, I was chiefly anxious to point out how and where the muscles of the palate might be divided for the purpose of ensuring that state of quiescence which appeared so necessary to secure union in the mesial line. I wished to put the operation on that scientific basis which characterizes the modern operations for club-foot, bent knee, strabismus, &c. Although fully satisfied of the correctness of my views, I have occasionally had difficulty in explaining why there should be movement in the flaps after the incisions requisite for the division of the muscles in question had been made. At first I was puzzled on this point, but I believe that I now understand the cause. It generally happens, even after the supposed division of the levator muscles, that considerable jerking in the flaps may be observed, and such movements, I have no doubt, are produced by the palato-pharyngei. Supposing the two pillars of the pharynx divided, the portions of these muscles in front may yet vary in length according to their contraction or relaxation: and if their anterior extremities still remain in connection with the posterior margin of the hard palate, the action may be sufficiently vigorous to give the impression, as the parts are looked at, that little good has resulted from the preliminary incisions. If, however, the parts be seized with the forceps, and pulled towards the mesial line, the comparatively feeble influence which the muscles now exert will be

* Practical Surgery, 2d edit., p. 531.

very striking. Besides averting muscular spasm, the incision which I recommend possesses another advantage, which I did not insist upon so much in my first paper as it seems to deserve. While the parts are stretched across the roof of the mouth, after the insertion of the stitches, the wound above is made to gape, and in this condition is covered with a layer of lymph, which has the effect of thickening the tissues for the time, and also keeping them more quiet than they would otherwise be. I have such confidence in the accuracy of this view, that I prefer a free incision in the site of the levator palati rather than a short wound little broader than the blade; and I recommend the free incision, too, because many of the fibres of the palato-pharyngeus muscle will be cut, whereby further relaxation will be permitted. The incision may be effected either with a free division of the mucous membrane, or the knife may be plunged through this membrane, and then carried backwards and forwards to effect the division of the tissues within. I have sometimes acted on this latter plan, but in my opinion it is best to make the opening in the mucous membrane as free (or nearly so) as the wound in the muscular tissues. The blood gets readily away, and there is no infiltration of it in the soft tissues, as happens when the membrane is left almost entire. In general, I find that, if the preliminary division above the palate be made free, and, in an especial manner, the anterior extremity of the palato-pharyngeus be separated partially, or perhaps completely, from the posterior border of the hard palate, there is little need for the division of the posterior pillar of the fauces. There is, perhaps, little or no risk in dividing this part; but, after doing so, I have usually noticed that the two sides of the uvula became more oedematous than on other occasions, probably from defective circulation through the veins. In some instances, however, the division of that part of the palato-pharyngeus which forms the posterior pillar of the fauces greatly facilitates the approximation of the sides of the posterior extremity of the fissure; and in all instances when, notwithstanding any incisions that may have already been made above each flap, the muscular action of the part seems still vigorous, I should deem the division of the parts in question of great service.

It has often appeared to me that, when the head was thrown far back for the purpose of exposing the palate to a strong light, the flaps have been drawn towards the posterior nares, and that, in the same instances, when the head was not kept so far back, the parts naturally came nearer the tongue. To account for these circumstances, I am disposed to think that, when the head is thrown far back, the axis of the muscle is changed, and that its action, instead of being downwards, is probably upwards, just as the sterno-mastoid muscles are understood to incline the head forwards or backwards, according to the angle which the base of the skull forms with the top of the spine. Anywise, I have not found it advantageous during the operation to stretch the head very far back.

In cutting so near to the numerous large vessels which are in this vicinity, some danger from hemorrhage might be apprehended. I have never yet, however, had the least trouble on this score. I have always used iced water in my operations, and the bleeding, which has never amounted to a tablespoonful, has invariably ceased before the termination of the operation. There might be imminent danger if the knife were carried far back above the palate, but so long as it is limited in its action between the posterior nares and the posterior border of the levator palati, there is no possibility of reaching any large vessel. Farther back than this, there might be a risk of the point passing out at the side of the upper part of the pharynx, and doing serious mischief.

I still retain the opinion that there is no better mode of introducing the stitches than by means of a slightly-curved needle, set in a handle.* The point of the instrument, armed with a smooth, round, waxed, silk thread, is passed from below upwards, about a quarter of an inch from the cut margin of the fissures, and made to appear in the middle of the gap, when the thread is seized with forceps, drawn three or four inches out of the mouth, and then the needle is withdrawn. A similar manœuvre is followed on the opposite side: the two threads are then tied together by the ends which have thus been

* Practical Surgery, 2d edit., p. 33.

drawn out at the mouth, and, by withdrawing one of them, the other will be carried through the aperture opposite to that where it was first introduced. Hitherto the thread has been double; now one end must be drawn through the apertures and out at the mouth, and so the thread is ready to be tied. Two, three, four, or five threads are introduced in this way, and then, after the cut margins of the flaps are sponged free of blood and mucus, the various threads are fastened.

In my early operations, I generally made a simple knot; or, by turning the thread twice over, made that called the "surgeon's," in accordance with the advice of Professor Smith, of Maryland. The object of the double turn is to prevent slipping until the completion of the knot. If there be no great muscular spasm, there is seldom any trouble from slipping: if there should be, the twist first made must be held firm with the point of the forceps, or else a favourable opportunity, whilst the parts are very quiet, must be taken to effect the manœuvre. But in preference to such plans, I have latterly adopted a method which I have found to be most satisfactory.* A loop is made with a single turn of one end of the thread;† the other end is then passed through it, when it is drawn so tight as just to permit the thread within it to slip along on the application of moderate traction. The loop can now be slid up to one of the apertures in the palate, and the cut edges being accurately adjusted, the whole can be kept *in situ* by tying a common knot on the thread close upon the loop. By taking care that the thread is very smooth on the surface, and regular in size, and by drawing the loop with proper firmness, slipping will rarely occur. But, indeed, it is one of the advantages attending my mode of operation, that there is less trouble at this part of the proceeding than when the muscles are left entire in their natural condition.

The degree of tightness to which the stitches may be drawn has often been a puzzling point with me. It has been remarked, that ulcerations frequently take place in the sight of the ligatures; and this has been attributed to their tightness. I have no doubt that this is the cause; but, if the pressure do not actually strangle the parts, I believe that no permanent harm will result. If the edges of the fissure are not kept together with some degree of firmness, there is a risk of saliva, or mucus, getting between and preventing union. On the other hand, if all the threads were drawn so as to endanger strangulation, the whole extent of the margins between the threads might slough. On the whole, a moderate degree of tightness should be preferred, rather than that the edges should be kept asunder by saliva or mucus. I have, too, had difficulty in determining the time to remove the stitches. In some of my early operations, they were all taken away about the forty-eighth or fiftieth hour, but, latterly, I have permitted them to remain longer. I believe that the adhesions are so readily broken on the second or third day, that it is best to permit all, or at any rate the most important, ligatures to remain over those dates, in case of any dangerous force being applied at this important period. It is better, in my opinion, to let the threads remain several days too long, than that they should be moved a minute too early. Usually, I take one or two stitches away on the third or fourth day, and on the fifth or sixth remove them all. It is better, I think, to take them out at intervals, than all at once.

After-treatment.—With some exception, at first, all my patients have had fluid food from the date of the operation until the union has been firm. I believe this to be a great improvement in the treatment of such cases: and have to express my acknowledgments to my friend Sir Philip Crampton‡ for breaking the established rule, previously acted upon, of starving the unhappy patients for eight-and-forty hours, or more, after the performance of the operation. Sir Philip permitted two of his patients to partake of "boiled bread and milk, custard, soup, and jelly, twice or thrice a-day," with the best possible results; and, when I contrast the apparent distress of the patients who were

* In the *Gaz. des Hôpitaux*, Oct. 1848, there is a communication by M. Gerdy on the subject of staphyloraphy, in which he recommends the employment of the quilled suture in place of the interrupted suture.

† Druitt's *Vade Mecum*, 4th ed., p. 401; also *Medical Times*, vol. xvi.

‡ *Dublin Journal of Medical Science*, July 1, 1843, vol. xxii.

formerly starved, with the comparative comfort of those to whom this wholesome mode of enjoyment has been permitted, I have no hesitation in recommending this treatment as of very great service. Besides, the exhibition of soft or fluid food is less hazardous in my own method than in the ordinary operation, as the chances of spasm and consequent dragging in the stitches are greatly arrested. Well-made gruel is what I chiefly recommend, and it may be seasoned with salt, sugar, or a little wine, as the patient may choose. Usually, in eight or ten days, the union of parts is so firm that solid food may be permitted, and it is seldom that any surgical interference is requisite after that time.

Patients and their friends are generally most anxious regarding the change of voice and improvement in articulation, as soon as speech is permitted. If the whole cleft has been closed by the operation, the improvement in tone is at once perceptible; but, if there be any aperture left, as is often the case, little change can be perceived. If, however, the opening be closed by any piece of mechanism, the result as regards the voice will appear much the same as in the other instance. In some, the change is much more apparent than in others: but in all, considerable after-training is required to improve the voice and speech. The original defect has permitted the air to pass as readily through the nostrils as by the mouth; hence the nasal sound so characteristic of such cases, and hence, too, the impossibility of articulating such sounds and words as get their modulation in the front part of the mouth in the natural state of the palate. I have found some of those on whom I have operated so very indolent and regardless of improvement, that they have not taken any pains to learn the use of the parts as altered by the operation; but in others there has been such satisfactory progress as to astonish and delight their friends. One of my patients, whose articulation was so bad before the operation that I could scarcely understand a word he said, afterwards set himself industriously to study elocution, and in less than twelve months acquired such mastery, that his speech was in reality more correct than is usually heard in ordinary society. The power of speech is acquired so slowly and imperceptibly in early life, that we hardly appreciate the needful efforts; and, under the circumstances referred to, we are all perhaps too sanguine as to the expected improvement—forgetting, in our zeal, the many years that passed in early life ere an ordinary command was obtained over the organs of speech. In most instances, I believe that considerable effort is required on the part of the patient to reap the full benefit of a successful operation.

I have attempted, on several occasions, to close the fissure in the hard palate, in accordance with the directions of my friend Dr. J. M. Warren,* but as yet without much success. The plan of dissecting the soft tissues from the bones, as recommended by this ingenious surgeon, seems, in his hands, to have been very successful. My own failures must, I suppose, be attributed to want of skill on my part, or to the circumstance that the cases in which I have hitherto tried the practice have not been favourable for its application. Sometimes, whilst dealing with the soft palate, I have also dissected the tissues from the bone between the margins of the eap and the alveolar ridges, and so have been enabled to close the whole gap by bringing the parts together in the mesial line; but, almost invariably, the junction in front has given way in a day or two after the stitches have been withdrawn, seemingly in consequence of the contraction induced by the soft structures resuming their original attachment to the bones.

In the February number of the same journal, Mr. Fergusson details twenty-four cases, in which the practice recommended by him had been put into execution, and in twenty-one of which it had proved of advantage. Many of these were most unfavourable instances: and, in three of the successful cases, the ordinary operations had already failed.

21. *Hare-lip*.—In the "Monthly Journal" for April 1849, we find the following excellent summary of the opinions recently advocated as to the proper period of operation for hare-lip:—

* New England Quarterly Journal of Med. and Surg., April 1843.

Opinions as to the proper period of operating for hare-lip.—Dr. Mason Warren has recently published a paper, confirmatory of a recommendation he had formerly given, that infants should undergo this operation at as early an age as possible, he having frequently resorted to it twenty-four hours after birth, and with better success than in older children. This arises from the less resistance offered by the child, and the great rapidity of the healing process at that age enabling it to suckle almost as soon as if nothing abnormal had been present.

In *double hare-lip*, complicated with fissure of the bones and a projecting tubercle, he operates on one side first, and allows that to heal: for, if both sides be operated on at once, the tissues are too much stretched, and suppuration occurs. If one side has united, and a month be allowed to elapse before the second operation, the protuberant intermaxillary bone will be found to have become more or less drawn into its place. Sutures are very preferable to needles, however wide the separation may be; for they can be more easily introduced, cause less irritation, and can be removed in from forty-eight to seventy-two hours, without disturbing the tender adhesions. They allow the part to be inspected, and any excess of inflammation to be kept down by wet compresses; so that, after their removal, the line of adhesion is often free from redness, and, after a short time, is hardly perceptible. The suture needles are most conveniently passed when straight, and sometimes by seizing them firmly with the forceps.*

Dr. Anselm states that a long experience has convinced him that the practice of immediate operation, put into force by M. Bonfils, of Nancy, is the best—the child then sleeping much, wanting little nourishment, possessing only an imperfect sensibility, and offering less resistance. The longer the operation is delayed, the less perfect is the adaptation attainable, for the two segments are never developed exactly alike. The imperfect sensibility of the child is so far from favouring, as stated, the occurrence of convulsions, that these are of far more frequent occurrence in older children. The child may easily be nourished for the first three or four days with a teaspoon, and after then it will suck with ease and safety. Much disappointment in this operation results from neglecting to divide the adhesions of the lip to the gum, without which exact coaptation cannot take place. After the operation, constant surveillance of the child by two attendants, during seventy-two hours, is requisite. Each of these, in turn, constantly maintains the parts in exact apposition, by gentle pressure of finger and thumb; for in this way alone can the consequences of the movements of the face be guarded against.†

M. Guersant observes that there are three periods at which this operation may be performed with different chances of success. The best chance is offered when it is performed within the first fifteen days. Later, we succeed less often, owing to the indocility of the child—its crying, eating, &c., preventing also accurate union. Later still, when the child has reached from ten to fifteen years, we may reason with him, and again operate with more success.‡

In addition to the above, we may observe that M. Paul Dubois likewise, some time since, expressed a strong opinion in the Académie in favour of operating, in simple cases, upon very young infants. He uses very fine insect pins; and, as those usually found in the shops are too long, and bend before the tissues, thus increasing the pain and duration of the operation, they should be shortened before passing. After twenty-four hours, the first threads are to be replaced by others, less tightly drawn, such change being repeated daily, and much diminishing the inconvenience produced by the pins. The upper pin may be removed after the seventy-second hour, and the lower one from the eightieth to the ninety-sixth, according to the solidity of the union, which should then be found complete. The children are suckled as usual after the operation, which M. Dubois regards as important for their welfare, and preventive of cries and struggles. He has never met with hemorrhage after the operation, and he believes the best security against this is the bringing the pared surfaces into accurate contact, and the avoiding making incisions into

* American Journal of the Medical Sciences, No. 30, pp. 337–8.

† L'Union Médicale, No. 76.

‡ Gazette des Hôpitaux, No. 75.

any other part than the lip itself. The detaching from the gum the portion of lip which is nearest to the upper angle of the wound, for the purpose of rendering approximation easier, is in his opinion unnecessary, as the naturally yielding character of the part allows of this being effected.*

Mr. Bransby Cooper says: "For my own part, I agree entirely with Sir Astley Cooper in regarding it as unsafe to operate upon infants before weaning—first, because, from their excessive irritability, they are totally unable to sustain any loss of blood; and secondly, because, after the operation, they are rendered incapable of sucking; and, indeed, Sir Astley has pointed out in his lectures the frequency of the failures he met with in his own practice in operating upon infants shortly after birth. I consider the best time, under ordinary circumstances, to be soon after the child is weaned, as it is then capable of receiving nourishment independently of its mother, and has overcome the distress incidental to the separation from her.

"At a more advanced age, as the development of the upper jaw increases in proportion to the growth of the teeth, the deformity is very much aggravated, particularly in cases of complex hare-lip. In addition to this, children of five or six years old can offer resistance during the operation, and are also less patient under the restrictions necessary during the progress of reparation.

"The twisted suture is, I think, preferable to the interrupted; but, from what I have seen of the practice of my colleague, Mr. Cock, I am led to consider the uninterrupted suture better than either.†

22. *Foreign Bodies in the Œsophagus, Larynx, and Trachea—General Remarks on their Nature and Treatment.*—We have recorded two cases of foreign bodies, one in the Œsophagus, the other in the trachea. In reference to such cases, Dr. Paterson‡ observes:—

Foreign bodies which enter the pharynx accidentally, or are intentionally introduced for suicidal purposes, are of very various sizes, nature, and characters, as regards their external surface and figure. The anatomy of the pharynx and gullet proves that no body from its size alone is likely to be impeded in the course of the Œsophagus, if it only pass the inferior constrictor of the pharynx; the muscular contractions of the Œsophagus being sufficient for pressing that body downwards into the stomach. But the shape of bodies thus introduced into the pharynx, and the circumstance of their being bounded or not by sharp edges and angles, often exercise remarkable influence on their transition along the tube, or the position they may occupy; and if the edges and angles of those bodies are such that they interrupt its progress along the tube, very serious consequences may result from the body or bodies being thus impacted in the walls of the pharynx. We have on record some most remarkable cases of bodies of large size passing into the stomach. A number of clasped knives, some of them of large size, were in one instance swallowed at different times, and conveyed into the stomach; buckles, rings, coins of various sizes, small padlocks, and even a gold watch and seals, have either been accidentally or intentionally swallowed; and my friend Dr. Jackson, of London,§ has recorded the history of a case in which a female pressed the ring of a large key a certain length down the Œsophagus for the purpose of committing suicide, and which had caused death by inducing inflammation of the Œsophagus, the larynx, and trachea.

In all these instances, the bodies possessed blunt or rounded edges and angles. When these angles are sharp, the body is detained in some part of the pharynx or Œsophagus, causing laceration and ulceration of parts, and producing the most formidable change, by effecting false openings and new communications between contiguous organs. Dr. James Duncan describes, in the first number of the "Northern Journal of Medicine,"|| a remarkable instance, in which a thin gold plate, with sharp extremities, and to which were attached two artificial teeth, had been allowed to slip into the Œsophagus, where it became fixed by the sharp angles of the metal, caused ulceration of the Œso-

* Brit. and For. Medico-Chirurg. Rev., Jan. 1849.

† Medical Gazette, June 23, 1848.

‡ Edinb. Medical and Surgical Journal, Jan. 1849.

§ Ibid., vol. lx. p. 195.

|| May 1844, p. 16.

phageal textures, and gradually worked its way to the arch of the aorta, in which it had effected a perforation of the size of a large crow-quill, about half an inch below the origin of the left subclavian artery. This perforation was the cause of the death of the patient by hemorrhage.

There would seem to be great varieties in the size of the inferior pharyngeal opening in different individuals. Some persons can swallow bodies of considerable size; while in others a comparatively small body is arrested, and often requires to be removed by manual extraction. Thus, in adults, shilling and farthing pieces, buttons, &c., have been known to require to be extracted in this manner.

Those bodies, however, which have a rough-pointed or angular surface are by much the more dangerous from accidents of this kind. They are liable to be arrested in the folds of the pharynx, and, if they are not caught there, they are often detained in passing the inferior constrictor, or at some portion of the œsophagus. This arises obviously from the unequal surface, which does not slide over the mucous membrane like a smooth body, but is caught by it, and producing irritation, leads to further muscular contraction upon and consequent fixing of the foreign substance. Of this class we have references to various published cases, where fish-bones, an ear of rye, a portion of quill, &c., became fixed in the œsophagus, and gave rise to serious symptoms, as in the case detailed.

Again, in reference to foreign bodies in the larynx, we have the following observations, appended by Dr. Ogier Ward to his case, which we have recorded (art. 32):—

If the foreign body engaged in the larynx be of such size or figure as to allow its removal through the crico-thyroid space, laryngotomy may be preferable to the opening of the trachea, and presents, in such instances, the advantages arising from more direct access to the offending substance, less troublesome amount of hemorrhage, the absence of danger from the admission of air into the veins, and probably greater facility of expelling the purulent and mucous secretions which almost invariably follow the operation. If the division of the membrane be effected by a crucial incision, sufficient space will be obtained in the adult for the extraction of most of the substances which find entrance to the organ; while, should the foreign body fall into the trachea or bronchus, it is likely to be removed by a slightly curved forceps of suitable length and slenderness of blades, with more readiness than, when located in the larynx, it can be reached from the trachea. It appears to me, also, that were a case to present itself in which, from the situation, figure, or impaction of the substance in the uppermost part of the larynx, the division of the thyroid cartilage, strictly in the middle line, should seem materially to facilitate its removal, there does not exist any, *à priori*, consideration of an anatomical or physiological kind to forbid such an operation, at least in the young subject. The extraction of a body impacted in the larynx by the forceps introduced through the ordinary tracheal opening, is a matter of considerable difficulty, where, as is not unusual, the latter lies at some depth from the surface. If the practitioner should determine on resorting to the ordinary operation of tracheotomy, as he probably must in the adult (from the less yielding nature of the laryngeal textures), it will be indispensable to be provided with a forceps of considerably greater curvature than those usually employed, the last one and a half or two inches (which may be slightly bent), should form but little more than a right angle with the remainder of the blade, the points of junction of the two portions being well rounded off. In the young subject, should any difficulty be encountered in extracting a substance impacted in the larynx, the division of the cricoid cartilage, supplementary to the operation of tracheotomy, may be effected without risk, as is shown in the foregoing case. It appears to me also worthy of consideration, whether in the child, where the cartilages are yielding, a modification of laryngotomy might not be advantageously substituted in many instances, not only of foreign body in the larynx and trachea, but also in the free section of the crico-thyroid ligament. Such an opening would afford equally ready access to the trachea or the larynx, and by the separation of its edges (aided, if necessary, by the removal of a thin

slice from the edges of the cricoid and tracheal part of the incision), sufficient room would be allowed for the extraction of most substances likely to be encountered in practice. If the incision strictly observe the median line, no danger of bleeding is encountered, except that from the laryngeal branch of the superior thyroid, which is easily arrested, the section of the isthmus of the thyroid body not affording any hemorrhage. There appears no reason, *à priori*, to doubt that any portion which might be removed from the cricoid would be replaced by new tissue, as in the instance of similar excision of a part of the tracheal rings. From the less depth of the parts from the surface, expectoration would probably be more easy, and the patient less teased by the reflux of mucus into the trachea, which is a source of much discomfort and exhaustion after tracheotomy. If the operation just described were resorted to, it might be necessary to modify the figure of the canula, should the latter be required.

The uncertain issue of cases of foreign bodies entering the air-tube is strikingly illustrated by the result of the case detailed. The mass of mucus which appears to have caused death by obstructing the tracheal bifurcation was not part of the secretion of a general bronchitis, but merely a local collection produced by irritation of the lower part of the trachea and adjacent bronchi. As respiration was, very shortly before death, as tranquil as usual, it is probable that an inspiration following an unsuccessful effort at expectoration drew the viscid mucous mass so firmly into the opening of the bronchi as to prevent its subsequent expulsion.

23. *Summary of Cases in which unnatural Communications had taken place between the Œsophagus and Trachea or Air-Passages.*—In connection with the subject of foreign bodies in the Œsophagus, larynx, and trachea, we find, in the "Edin. Med. and Surg. Journal," for January 1849, a most careful digest of a paper by Dr. Vigla,* entitled "*Recherches sur les Communications Accidentales de l'Œsophage avec les Poumons et les Bronches.*"

M. Vigla arranges the cases collected by him into five orders or categories:—

1st. The Œsophagus perforated communicating with one or both lungs. Ten cases.

2d. The Œsophagus perforated communicating with one of the pleuræ. Two cases.

3d. The Œsophagus perforated communicating with the right bronchus. Three cases.

4th. The Œsophagus perforated, or diseased, contiguous to a lesion of the lung or pleura, and in a state of imminently approaching communication. Four cases.

5th. A foreign body, introduced into the Œsophagus, paves for itself a passage outward by forming a fistulous opening through the chest. Four cases.

Our limits forbidding us to give even a summary of all these various cases (the majority of which are the consequence of disease of the Œsophagus), we purpose in this notice to confine our attention to the fifth section, viz., *a foreign body, introduced into the Œsophagus, paves for itself a passage outwards by forming a fistulous opening through the chest*, as more particularly having reference to the subject at present under consideration, viz., the presence of foreign bodies in the Œsophagus, larynx, and trachea.

Cases in which a foreign body, introduced into the Œsophagus, has found its way outwards by means of a fistulous passage through the chest.

1st. A robust young man, aged 22 years, serving in the campaign of Piedmont, received, on the 14th of April, 1686, a musket-ball between the tenth and eleventh thoracic vertebræ in the dorsal region. As no bleeding followed, the wound was enlarged by the bistoury; but neither blood nor ball escaped. He was desired by the surgeon to cough. Only some grains of rice which he had taken at his last meal came away. The wound healed up, and the patient recovered. He further acquired so much strength, though fed on bread and water in prison, that he made his escape in February 1687, with some companions, and fortunately reached Switzerland amidst severe cold, and through roads covered with snow. He then turned to country labour; but, about the end of

* Archives Générales, 4me série, l. xii., Oct. 1846.

September, during vintage, after having carried for several days on his shoulders heavier loads than usual, he was attacked first with difficulty of breathing, then fever, thirst, restlessness, delirium, and pain in the head and chest. These symptoms proceeded, and became aggravated; and, on the 10th of October, the patient died.

The right lung adhered to the pleura, to the diaphragm, and to the mediastinum. Two fingers' breadth from its apex was found, in the substance of the lung, a leaden ball, inclosed in a proper sheath. The course of the ball could be followed from the site of the external wound to the cyst in the lung united together by adhesions; but it was impossible to recognize the vestiges of the lesion of the œsophagus. (Jacob Harder, *Miscellanea Curiosa*, Anno 1690: Obs. xciii. p. 158.)

Excepting for the rice-grains discharged at the wound, it might be doubted whether the œsophagus was wounded at all. The case appears to be more like one of those in which the ball was, from the first, lodged in the lung, without affecting the œsophagus.

2d. An ear of grass swallowed; pneumonia; abscess in the walls of the chest; escape of the ear of grass.—Some young persons were amusing themselves in trying whether, with an ear of grass placed on the tongue, they could pronounce certain words without swallowing the ear of grass. Two of these young persons placed the awns first, and the opposite end outwards, and when they tried to speak, they swallowed the ears, but suffered from this no inconvenience. A third, aged about 16 years, placed the ear in the opposite direction on his tongue, and scarcely had he pronounced the two or three words agreed on, than the ear slipped down the throat. The young man immediately was deprived of the power of speech, and breathed with such difficulty that he appeared to be suffocated; and in this state he remained several minutes. All means were used by his companions to make him eject the foreign body, but all were unavailing. The fits of choking, however, were abated, though breathing was very much oppressed. Next day, the patient was attacked by shivering, followed by fever, cough, spitting of blood, and all the symptoms of a formidable disease of the lungs. Active remedies were employed.

On the seventh day of the disease, a tumour the size of an egg appeared between the sixth and seventh true ribs, causing acute pain. Suppuration followed, and the abscess opened of itself on the thirteenth day, when, after the discharge of much fetid matter, the mother of the patient withdrew a body which turned out to be the ear of grass. The young man completely recovered.

Labath, who communicated this case to Hevin, was of opinion that the ear of grass had slipped into the windpipe. M. Vigla and Hevin think that it was in the œsophagus. It is not very easy to decide; but the history of similar cases inclines us rather to the opinion of Labath, that the ear of grass dropped into the larynx, and thence into the trachea and bronchus. It appears that the abscess was formed in the left side, three inches below the left nipple.

3d. An ear of grass swallowed by a child of six months: escape by an abscess in the back. A child of six months swallowed an ear of grass with which he was amusing himself. The accident was followed by violent coughing, which, however, did not favour the descent of the body, because the awns were so disposed that they should have made it re-ascend. In the posterior part of the chest, considerable inflammation took place, and terminated near the fifth rib in an abscess, in which the ear of grass was found.

4th. A girl of one year swallowed an ear of corn which she was holding in her mouth. Violent coughing immediately ensued. On the fifteenth day, the patient discharged fetid pus by vomiting; and, on the same day, appeared a tumour on the right side near the superior ribs. The surgeon felt fluctuation. He opened the abscess and withdrew the ear of corn, which presented itself first, and then followed much matter. Air used to come through the opening. The child recovered perfectly in five weeks. (Ledelius, quoted by Hevin, p. 414.)

[It seems doubtful whether, in either of the two last-mentioned cases, any more than in the first and second, the foreign body had really entered the œsophagus. The immediate symptoms following the accident lead rather to the

conclusion that these bodies had entered the larynx, and descended to the bronchi; and the fact of air issuing from the interior of the abscess in the fourth case, though not conclusive against its proceeding from the œsophagus, yet favours as much the idea that the abscess communicated with the lungs.]

24. *Is Laryngotomy or Tracheotomy to be preferred in Acute Affections of the Larynx?*—This question is discussed by Mr. Prescott Hewett, in the February number of the "London Journal of Medicine."

When, in acute affections of the larynx, the surgeon is called upon to make an opening into some part of the air-passages, in order to relieve the urgent dyspnoea which has supervened, the operation in the trachea is the one selected by most surgeons of the present day. Now, the object of Mr. Hewett's communication is to prove that, not only is this preference not founded on just grounds, but also that it would be advisable in such cases to make the opening in the crico-thyroid region.

Acute affections of the larynx, terminating in effusion, present, it is well known, a very great difference in the adult and in the child; the effusion, in the former, taking place by far most frequently in the submucous tissue; whereas, in the latter, it is usually poured out on the free surface of the mucous membrane. In these cases, in the adult, the effusion is purely laryngeal; in the child, it is, most frequently, not only laryngeal, but also tracheal.

This marked difference in the localities of the effusion, at these two periods of life, at once points out two great divisions, in which the surgical treatment will necessarily be very different. My intention is to confine, for the present, these remarks to one of the divisions only, that of the adult period.

Effusions in the submucous tissue of the larynx, it matters not of what kind or how produced, are strictly limited to the parts above the rima glottidis. This fact, already pointed out by several pathologists, has not, I think, been sufficiently dwelt upon by practical surgeons.

That the effusion is thus invariably limited to this region, may be proved by morbid anatomy, by experiments, and by the anatomical structure of the parts.

The explanation of this limitation, he observes, is easily found in the anatomical structure of the larynx and trachea. Above the inferior vocal cords, the mucous membrane is connected to the subjacent parts by means of a loose cellular tissue, which is very abundant, especially in the region of the aryteno-epiglottic ligaments, whereas the connections of the mucous membrane lining these cords and the trachea are very firm; the cellular tissue here, being very short and very dense, forms so firm a bond of union, that it is difficult to separate the mucous membrane from the parts lying below it.

The late Mr. Liston, who was a staunch advocate for the operation of tracheotomy in most affections of the larynx, where an operation was required, admitted, in some observations published in the "Lancet" for 1844, "that the high operation in the crico-thyroid membrane, laryngotomy, in fact, might answer in cases where there is obstruction in the rima glottidis, as where swelling has followed a scald of the glottis." The admission, thus made by Mr. Liston for these cases of accident, ought to be applied to most cases of acute laryngeal affections in the adult. After childhood, it is, comparatively speaking, very rare to find the obstruction anywhere but at the rima, or immediately above this region; it matters not whether the effusion has been preceded by an accident or not, its locality is precisely the same in both instances; it is limited in the one, as well as in the other, to the parts above the rima.

Although the effusion be above the rima, in practice it will be found, in most instances, that the obstruction for which the surgeon is called upon to operate is at the rima itself. The sudden and urgent dyspnoea, coming on in paroxysms, at once shows that this obstruction is caused by spasms of the muscles in this region. This, too, is proved by post-mortem examinations; for in many cases where patients have died of sudden suffocation, the effusion has been so slight as to present little or no obstruction: certainly not sufficient to account for the symptoms. It is this spasmodic state which renders the operation of laryngotomy of so much value; coming on, as it does, so suddenly and violently, it demands that the relief be immediate: the opening in the air-passages must, in many instances, to be of any avail, be made, as it were, instantaneously; tra-

cheotomy, it is well known, cannot thus be performed with safety to the patient. A striking instance of this nature came under my notice some years back. A young woman, who was affected with extensive syphilitic ulceration of the throat, was suddenly one night attacked, no premonitory symptoms having been present, with most urgent dyspnoea. It was determined by the surgeon, who was close at hand, to perform tracheotomy; the operation was well done, but some little time was lost in making the opening in the windpipe, in consequence of some venous hemorrhage, and the patient, who made a slight rally after the introduction of the canula, soon died. At the post-mortem examination, the larynx was found to be quite healthy; the urgent dyspnoea had been caused solely by spasm of the glottis, induced by the irritation which was going on in its immediate neighbourhood.

In the preceding observations, reference has been made to laryngotomy in the adult only; but there is a class of cases occurring—and that not unfrequently among children—in which this operation is equally valuable. I refer to those cases where the little patients have swallowed either acids or, more commonly, boiling water. Here the limits of the disease are just as well defined: the effusion following the accident, being in the submucous cellular tissue, is strictly limited to the parts above the inferior chordæ vocales, and morbid anatomy shows precisely the same state of things as that which occurs most frequently in the adult: the urgent dyspnoea is in the same manner produced, in a great measure, by spasm of the glottis. In this class of cases, it may, I think, be said that laryngotomy is even more valuable than it is in the adult, owing to the much greater difficulty which naturally exists in laying open the windpipe of a child.

Having thus pointed out the exact nature of the disease in these affections of the larynx, if we now proceed to weigh the respective merits of the two operations which may be resorted to, we shall find that either of them will serve for the relief of the urgent and distressing symptoms which sometimes accompany these cases. On the one hand, however, we shall have an operation, laryngotomy, which may, in most instances, be performed with great ease, and, as it were, instantaneously; and, on the other, tracheotomy, an operation, the difficulties and dangers of which are such that all experienced operators and practical writers have thought it advisable to dwell upon them strongly—so strongly, indeed, that it will be quite unnecessary for me to recapitulate them.

Such being the case, I shall close these observations with the two following general rules:—

In adults, laryngotomy is, in cases of acute affections of the larynx, to be preferred to tracheotomy.

In children, laryngotomy is also to be preferred in cases where the obstruction has come on after swallowing boiling water, acids, or any other irritating fluid.

§ VI.—*Injuries and Diseases of the Abdomen.*

25. *Femoral Hernia.*—Mr. Gay has directed the attention of the profession, in a very able and elaborate work, to a mode of operating for femoral hernia, differing in principle and detail from the various methods which have heretofore been employed: a principle which “is capable of being applied to the relief not only of femoral, but to all outward forms of strangulated hernia.* . . . The principle of the new operation briefly consists in reaching the seat of stricture, when external to the sac, by a small incision, made through healthy structures, and in such a situation that the hernial mass shall not be injured or disturbed thereby.”†

Mr. Gay's reasons for recommending a departure from the established system of operating are derived from the unquestionable fact of the high rate of mor-

* On Femoral Rupture, its Anatomy, Pathology, and Surgery; with a New Mode of Operating, applicable to cases of Strangulated Hernia generally. With Plates. By John Gay, F.R.C.S., Surgeon to the Royal Free Hospital, &c. &c.

† Preface.

tality which has, according to all published reports, hitherto followed these operations.

Mr. Gay has occupied a considerable part of his work with an anatomical exposition of the parts concerned in femoral rupture, according to his own—and that a long series—dissections, interspersing it with notes of a more directly practical character, to which we shall principally allude.

Diagnosis.—For all cases of femoral hernia, Mr. Gay recommends the following as the best means of diagnosis. If a line be drawn across the front part of the thigh from the great trochanter to the spinous process of the pubis, and this line be divided into thirds, “the iliac third will lie over the neck of the thigh-bone and great trochanter; the middle third will horizontally bisect the head of the thigh-bone; whilst the horizontal ramus of the os pubis and the parts immediately concerned in the anatomy of femoral rupture will be subjoined to the outer part of its public division.”

Seats of stricture.—In the case of an ordinarily strangulated femoral hernia, Mr. Gay mentions the following parts as the seats of stricture; it being possible that either one or several may be concerned in the constriction:—

1st. *A peculiar band of fibres appertaining to the sheath of the vessels*, which is capable of constricting the sac in the situation of the femoral ring. This band is identical with that described by Hesselbach as “*fibræ crassiores ligamenti inguinalis interni*,” and is figured in the third plate of his work “*De Ortu et Progressu Herniarum*,” 1816. It corresponds also with a band described by Langenbeck, and forms a part of that process of the fascia transversalis, which Mr. Key describes “as passing to the linea ileo-pectinea, and which, from its connection with Gimbernat’s ligament, has given rise to the erroneous idea of the latter consisting of *two layers*” (note, p. 27). The importance of recognizing this band as a distinct seat of stricture is obvious from the fact that, in cases mentioned by Mr. Luke, as well as in others alluded to, the stricture was found in an unusual position, viz., “above Poupart’s ligament;” and, according to Mr. Luke’s description, was “produced by a transverse band of fascia crossing the entrance of the funnel-shaped canal into which the hernia descends in its passage from the abdomen” (note, pp. 47–8.)

2d. *The crural ring.* Mr. Gay says: “Being constituted of elastic membranes, unless their tissues are thickened, or are firmly adherent to the hernial tumour, the ring can only act mediately upon the hernia” (p. 48).

3d. *The femoral or Hey’s ligament and Gimbernat’s ligament*, which surround and have the power to coerce the front and pubic side of the ring. These ligaments are the most constant seats of stricture external to the neck of the sac.*

The ligaments of Hey and Gimbernat are, by Mr. Gay, held to be distinct seats of stricture, so that the division of the one will in no way effect a relaxation of the other.

This is at variance with Sir A. Cooper’s opinion, that the constricting force of the tissues at the femoral ring resides equally in every part of the ring or circle which they co-operate in forming; and, in accordance with the experience of most surgeons, that, occasionally after a division of the stricture, so far as it resides in the ligament of Gimbernat, i. e. in the direction of the pubis, it is necessary, before the hernial tumour can be restored, to divide Hey’s ligament as well, i. e. to cut the stricture forwards.

The 4th seat of stricture is the margin of the lower orifice of the crural canal.

The 5th, the edge of the falciform process of the fascia lata.

In the varieties of femoral hernia, in which the sac passes through the absorbent apertures of the septum crurale or of the cribriform fascia, the marginal edges of these apertures will of course be the seats of stricture.

In case of the first variety, the seat of stricture can only be definitively ascertained after the parts which compose and surround the femoral ring have been freely dilated: when, if strangulation should continue, the surgeon would, before proceeding to open the sac, direct his attention to the orifice in question,

* In the anatomical part of the work, Mr. Gay goes into a critical examination of the structure which has been usually known as Hey’s ligament.

and search for an annular band of fibres, which would surround the sac just below its neck. The aperture of this fascia, through which protrusion has been observed to take place, is so small, generally, that this kind of rupture might become strangulated before it becomes *complete*; or, in other words, before it has passed through the femoral canal. Hence, in these cases, the *subjective* symptoms of hernia alone are more likely to present themselves than in other forms.

In case of strangulation by the cribriform fascia, the seat of stricture would be evidenced by the proximity of the stricture to the femoral surface; and by the test to which Mr. Luke has called the attention of the profession, viz., to the point where impulse in the hernial tumour ceases to be felt upon coughing.

Cause of death in strangulated femoral hernia.—We regret that our limits entirely prevent us from examining Mr. Gay's interesting speculations on this subject, as also his valuable researches into the pathological changes which in these cases precede death. We must, therefore, refer our readers to the work itself, which will be found well worthy of a careful perusal.

Mr. Gay's operation.—The principle of the operation recommended is "non-interference with the fasciæ and other parts of the mass not immediately involved in the detention of the herniated viscera The cutting and separation of fasciæ in operations for hernia have nothing to do with the *relief of the parts*—they are simply *guides* in the course of the operation, and as such ought to be abandoned. The operation can be performed, and that easily, by a fair anatomist, without such wholesale (as I have often seen them) *lamellar* separations, and would be thereby freed from much of the fatality which at present proceeds from this process, and this process alone."*

Mr. Gay's plan of operation is as follows:—

"For the first step of the operation, two imaginary lines should be drawn *from the point directly over the inner side of the neck of the hernial tumour*; one to the tuberosity of the pubis; the other down the thigh along the inner side of the tumour. These two supposed lines will include an angular space in which, and about mid-distance from either, the *first incision* is to be made. This incision should commence just within the angle formed by the meeting of these lines, and be carried inwards, and rather downwards, for the extent of an inch or little more; and should divide the integuments and superficial fascia over the femoral fossa.

"For the second part of the operation, the forefinger of the left hand (if the hernial tumour is on the right thigh, and *vice versa*) is to be passed through this wound upwards and outwards, along and close to the side of the hernial tumour, to its neck. Should any of the deep laminæ of the superficial fascia which occupy the femoral fossa obstruct its passage, these must be divided.

"The blunt point of a bistoury *caché*, guided by the tip of the finger still in the wound, is to be passed through the cribriform fascia (one of the sheath-like apertures in which it will readily enter), and the delicate vaginal sheath which alone intervenes between it and the crural canal. It is now to be directed upward, through the *canal* to the *ring*, where it usually meets with resistance from the seat of stricture. By the least amount of force, and with the aid of a little gentle compression of the inner side of the tumour by the finger, the point of the bistoury may be insinuated between the *sac* and the pubic margin of the *ring*; the edge of the knife is then to be turned towards the pubis, and, by projecting the blade, the seat of stricture in that direction may be effectively divided.† Should the surgeon, however, be disposed to direct his incision forwards, it may be done either before or after the incision of Gimbernat's ligament with equal facility. It will be obvious, from a reference to the anatomical relations of the parts, that, in its course from the femoral fossa through the cribriform fascia, crural canal, and ring, the knife will pass successively behind the falciform process, the edge of the lower orifice of the canal, Hey's ligament and

* Monthly Journal, March, 1849, p. 585.

† The objection urged against the division of the stricture towards the pubis, on account of the depth from the surface at which it has to be made, cannot apply to this, as it assuredly does to the usual method of operating; since the portion of the stricture selected lies immediately beneath the *undisturbed skin*, S. fascia and crural arch.

the fibres of the inguinal ligament of Hesselbach; and thus be made to command whichever may happen to be the particular seat of stricture. By taking care not to keep the knife too close to the side of the hernial tumour, after its point has passed the cribriform fascia, its point would glide between the sheath and the deep layer of the iliac fascia lata; and in this way it would pass *between the ring and the last portion of Hey's and Gimbernat's ligaments*, and thus a division of these structures might be effected from the outside of the sheath or canal.

"If, after the division of the ring and parts on its pubic and front sides, the hernial tumour is not to be replaced without the employment of force, the stricture cannot have been dilated, and the surgeon would then have to contemplate the possibility of its being situated in the fibres of the septum crurale. The still constricted neck of the sac would, in that case, be felt, and it would be for the surgeon to get his knife cautiously behind the constricting fibres. This could be most easily done by such a knife as I am in the habit of using (made by Ferguson), which has a beak flattened in the direction transverse to the edge, by gently pressing the side of the tumour outwards immediately below the seat of constriction, so as to gain room for its introduction.

"Should the seat of stricture be in the margin of one of the apertures of the cribriform fascia, which would in all probability be discovered at an early period of the operation, the means for dilating it would be analogous to those which have just been detailed.

"If, after the division of these various textures external to the sac, the hernial tumour should still remain constricted, the external wound would have to be enlarged, and the seat of stricture looked for either in the neck of the sac or within the sac amongst its contents.

"The operation just detailed is most simple and easy of execution; requires but few, and those small incisions; leaves the hernial tumour and its diseased coverings untouched: permits, if necessary, the immediate use of a truss; and, in an otherwise healthy subject, requires but a few days for the perfect recovery of the patient."

With regard to what has been called Petit's operation—viz., that of dividing the stricture outside the sac—Mr. Gay thinks it should be considered rather as the practical expression of a great principle; viz., that it is not desirable to divide more parts, or to carry your incisions deeper, than are absolutely required for the division of the seat of stricture.

The operation, as recommended by Mr. Gay, has been performed with success, as may be seen by a reference to the "*Lancet*," "*Medical Gazette*," and "*Medical Times*."

Nature of objections urged.—The objections which have been urged against its adoption have been chiefly those which have lately been advanced against the practice of returning the contents of the hernial sac without an examination of their actual condition. It has been contended that, on no occasion, should the hernial parts be returned before such an examination has been instituted by the opening of the sac; but this doctrine would be equally fatal to the practice of attempting to return a rupture by the taxis; and would lead to the abandonment of this mode of restoring the parts in any case, for the risk of an operation—a mode of practice which few would concur in sanctioning.

In a paper on Mr. Gay's views, read by Mr. Hancock, of the Charing-Cross Hospital, before the members of the Westminster Medical Society, on the 19th of May,* this objection was urged, and it was alleged that there were no means at present known by which the operator could decide that the contents of a hernial sac were in a condition fit for their being returned as they are into the abdominal cavity.

Mr. Gay, in reply, said that the operator should not be biassed by a preference of the one or the other mode of relieving the stricture: but should be guided by the circumstances of the case, alleging that, in general, the previous history of the individual and the circumstances attendant upon and following the act of strangulation, would assist much in determining whether the sac should be opened for any purposes in connection with its contents or not.

* *Lancet*, June 2, 1849.

III.

REPORT ON THE PROGRESS OF MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.

BY THE EDITOR.

THE new works devoted to the subject of the present Report, which have been forwarded to us by their respective authors or publishers since the publication of our last volume, are the following:—

I. *Obstetrics, the Science and the Art.* By CHARLES D. MEIGS, M. D. 8vo. Philadelphia.

II. *Parturition, and the Principles and Practice of Obstetrics.* By W. TYLER SMITH, M. D. 12mo. London.

III. *A Practical Treatise on Inflammation of the Uterus and its Appendages, and on Ulceration and Induration of the Neck of the Uterus.* By JAMES HENRY BENNET, M. D. 8vo. London.

IV. *Practical Remarks on the Use of the Speculum in the Treatment of the Diseases of Females.* By THOMAS MITCHELL, M. D. 8vo. Dublin.

1. THE work by Dr. Meigs is the reproduction, in a new and much enlarged form, of a volume formerly called the "Philadelphia Practice of Midwifery." It is addressed to the students of his class, and is therefore intended to be strictly elementary. The contents are arranged under four heads:—

1st. The anatomy of the parts concerned in the acts of reproduction.

2d. The physiology of reproduction.

3d. The therapeutics and surgery of midwifery, or the obstetric art.

4th. The history and diseases of the newborn child.

In the description of the anatomy of the reproductive system, the author commences with the bones of the pelvis, and subsequently, in separate chapters, gives the mechanism of labour; the anatomy of the foetal cranium, in relation to the outlets of the pelvis; and the anatomy of the soft parts. The anatomical descriptions are, under each section, interspersed with practical remarks on the pathology of the individual parts, many of which observations are of considerable importance and interest. The anatomy of the ovaries comprises the structural description and attributes of the ovum, together with a theory of production of the corpus luteum, which is peculiar to the author.

In the second part, we have the physiology of reproduction, comprised in three chapters. The first giving the physiology of menstruation: the second, the causes and treatment of amenorrhoea; and the third, the subjects of conception and pregnancy, with the various questions appertaining thereunto.

Part third, which is devoted to practical midwifery, is divided into eleven chapters. In the first, we have the definition of labour, the cause of its production, the various kinds of labour-pains, the different positions of the foetus, and the mechanism of labour. In the second, the author describes the method of conducting labour, the management of the different presentations, delivery of the placenta, treatment of after-pains, &c. In this chapter, also, the author gives us his views respecting anaesthesia in midwifery; these we shall allude to more in detail at a future page. The two succeeding chapters enter at length into the consideration of presentations of the face and of the pelvic extremities. In the chapter on preterm labours, the author adopts a definition more extended than is usual in works on midwifery, admitting not only the forms of labour usually so classed, but some others not generally admitted into

the category—as, for instance, labours accompanied by exhaustion; by the engagement of a loop of intestine in front of the womb; and by the existence of cancer of the womb, smallpox, &c. The next two chapters embrace the subjects of operative midwifery, as it may be termed, including turning; the description of the various forms of forceps, with the mode of using them; and craniotomy and embryuleio. A chapter is also allotted to the several subjects of premature labour, inversion of the womb, puerperal fever, atresia vaginae, ergot, and milk-fever. Many of these are little else than repetitions of portions of the author's "Letters on the Diseases of Females," noticed in our last volume.

The last part of Dr. Meigs' volume treats of the management and some of the diseases of the newborn infant. It has no pretension to the title of a complete account of infant pathology, the observations being confined to a few of the more common affections, such as aphthæ, jaundice, and coryza. An entire chapter is devoted to the subject of cyanosis, to which we call attention, as particularly worthy of perusal.

The work concludes with the description of an instrument for the replacement of the retroverted womb, of which we shall give a more particular account hereafter.

In closing this hasty analysis of the present volume, we can conscientiously recommend it as giving, as far as it goes, a fair view of the present state of obstetrical science in America, of which the author is one of the most eminent professors.

It cannot be considered, nor does it, indeed, pretend to be a *complete system* of midwifery; for which reason we do not think that, in this country, it will be regarded as equal to the recent valuable works of Dr. Robert Lee and Dr. Rigby; it will, nevertheless, not fail to form a useful addition to the library of the practical obstetrician, as it abounds in precepts derived from actual bedside experience of no limited character.

2. The second book on our list, that by Dr. Tyler Smith, is a reprint in a collected form of the series of lectures lately published in the "Lancet," many of which have from time to time been reproduced in our former volumes.

The main object and idea expressed in the work, is that of exhibiting the subserviency of the various phenomena of reproduction and parturition to that part of the nervous system called the true spinal; and this the author has accomplished, in our opinion, in a masterly manner. It is difficult to point out any portion of the author's labours which are not interesting from their novelty, as well as from the philosophical manner in which the subject is treated; but we would refer the reader to Lectures 14, 15, 20, and 25, as especially valuable. Although differing from the author on some points—that, for instance, on the uterine origin of the movements, generally, and, as we believe, correctly, attributed to the fetus—we do not fear to say that midwifery is under great obligations to him, not only as having rendered the subject more generally attractive by his method of handling it, but for contributing greatly to fix the obstetrical art more securely on the basis of scientific principles.

3. We have equally the pleasure of being able to speak in terms of high commendation of the next book on our list, by Dr. Bennet. When, a few years back, the first edition of the present work was published, the subject was one which was almost entirely unknown even to the obstetrical celebrities of the day; and even now we have reason to know that the bulk of the profession are not fully alive to the importance and frequency of the disease of which it takes cognizance. The present edition is so much enlarged, altered, and improved, that it can scarcely be considered as the same work. The history and treatment of ulceration of the os and cervix have been greatly extended; the author having studied it not only, as in the former edition, in the case of the married female, but in the virgin, in the pregnant female, and in the female in advanced life. He has also added chapters on inflammation of the body of the uterus, and of the appendages, both in the puerperal and non-puerperal states; on the connection of inflammation of the neck of the uterus with the displacements and functional derangements of the organ; on syphilitic ulceration of the os uteri, and on diagnosis of uterine cancer.

Abstracts of several of these chapters have already appeared in our former volumes (IV. 147; V. 144; VI. 128; VIII. 150), and need not, therefore, be further noticed in the present report. Such portions as have not been mentioned, will be commented upon under their respective sections, to which they may, with propriety, be referred.

Dr. Bennet's volume is another proof that, in medicine, as in everything else, for whatever of real progress is made, we are, nine times out of ten, indebted to, comparatively speaking, young men. Dr. Bennet has not yet, we believe, reached the meridian of life, but we question whether there is any senior in his own department, that must not own, if he has candour enough to do so, that the volume before us contains a mass of information to which, with all his "experience," he was previously a stranger.

4. The "Practical Remarks on the Speculum," by Dr. Mitchell, is a small treatise, written for the use of his pupils, and made up of the clinical lectures delivered by him at various times. It is, therefore, as might be expected, a strictly elementary work, intended only for the student or practitioner, who is practically unacquainted with the diseases in which the speculum is of so much value. There are, however, one or two points touched upon, which may be unknown to those who have turned their attention to uterine pathology, such as the use of the solution of gun-cotton to ulcers of the os and cervix, and a method of applying the Vienna paste and uterine injections. The latter is noticed by us in a former volume.

Of the coloured plates which accompany this little work, we cannot say anything in praise. They are executed in a very inferior style, and are totally unlike what they are intended to represent.

§ I.—*Anæsthesia in Midwifery.*

The interest excited by this subject, though somewhat abated, has not subsided entirely, but is still kept publicly alive by the occasional appearance of a pamphlet or book, taking, as the case may be, a favourable or unfavourable view of its applicability. Of this nature, are two productions which we have now to notice; namely, a treatise by Dr. Channing, and a pamphlet by Mr. Gream.

Dr. Channing, of Boston, an accoucheur in extensive practice, records the results of the inhalation of ether in upwards of 500 cases, these results being altogether favourable. "Anæsthesia has," he observes, "produced no such effects in midwifery as for a moment should suggest that it be laid aside, or which makes its entire safety a question. I have not met with a case, either in personal experience, or on record, in which anything untoward has occurred during etherization in midwifery, which could not be explained without reference to that agent."

The author's views are succinctly exhibited in the following propositions:—

1st. I generally take the ether or chloroform with me, and if the pains are severe, I offer inhalation as a sure and safe means of abolishing pain, and this in a perfectly natural labour.

2d. In protracted labours, in which dilatation goes on slowly, notwithstanding severe contractions and great suffering, I recommend and employ inhalation.

3d. In any labour, if there be imperfect dilatation, or the secretions are deficient, I use inhalation.

4th. In instrumental labour, I use inhalation, *always applying the instruments before inhalation is commenced.*

5th. In turning, I employ inhalation.

The objections to anæsthesia, which appear to be much the same in America as in England, are met by Dr. Channing in much the same manner as has been adopted by its advocates here; but, as we have entered fully into these points in former volumes, a repetition would be out of place.

In a subsequent part of his essay, the author gives the results of anæsthetic midwifery in America, as derived from personal experience, and from the experience of numerous physicians, who replied to a circular letter making inquiries on the subject. These results are of sufficient import to warrant their detail.

In 516 cases of cephalic presentations, in which anæsthesia was induced, the mother did well in all.

In 51 cases of instrumental, preternatural, and complex labours, the maternal deaths were four—a mortality, as Dr. Channing remarks, so small as was never before presented. These cases included forceps and craniotomy cases, arm and breech presentations, cases of unavoidable hemorrhage, and of convulsions, among which were the four fatal cases.

— Mr. Gream, the author of the pamphlet entitled “The Misapplication of Anæsthesia in Childbirth,” is known, doubtless, to most of our readers as one of the earliest and most uncompromising of the opponents to anæsthesia in obstetrical practice. His opposition is, however, we must observe, of that violent character which deducts largely from the credence which we might otherwise attach to his writings. There is, in fact, so great an air of partisanship, and of an almost morbid hostility to Dr. Simpson, and the other advocates of the other side of the question, that the mind instinctively prepares itself to receive his remarks *cum grano salis*.

The author starts by assuming that the requiem of anæsthesia in midwifery is already sung, as far as the public is concerned—a fact, by the by, the existence of which we beg leave to doubt; and he then proceeds to inform us that he has collected information by means of a circular letter, the answers to which are such that, not only have all his former assertions been substantiated, but his prognostications of injury to a frightful extent exceeded. With this introduction, he commences his opposition by the enunciation of certain allegations:—to wit, that anæsthesia from ether and chloroform is no more or less than drunkenness; that it gives rise to indecent dreams, expressions, and actions; that it induces convulsions; and, lastly, that it may cause death. Each of these he endeavours to substantiate by facts, most of which are derived from the sources above mentioned.

Want of space prevents our following the author through the details thus accumulated; but we cannot avoid the remark, that some of the facts by which he supports the second proposition are such as we are surprised to meet with in a pamphlet, which, whatever may be the author's intentions, will doubtless find its way into some of the “drawing-rooms” whither he accuses Dr. Simpson's writings to have preceded him. If such be the case, we submit that pages 33, 34 contain notices scarcely suitable for the perusal of modest maidens and matrons.

That, with this possible contingency, such indecent details should have been printed, is the more to be wondered at, that Mr. Gream prides himself not a little on his delicacy, refusing on that score even to avail himself of the use of the speculum. We would not be understood to find fault with Mr. Gream for his opposition to chloroform in midwifery; although entertaining a favourable opinion respecting it ourselves, we willingly acknowledge the paramount importance of caution in its employment, and would deprecate the resorting to it in cases not absolutely requiring it. With these views, we think some good may arise out of Mr. Gream's pamphlet, by its keeping within due bounds those whose opinions might, without reading both sides of the question, be a little too enthusiastic in the favour of obstetric anæsthesia.

— In the volume above referred to, Dr. Meigs also records his objections to anæsthesia in midwifery, which are in the main the same as are generally urged, viz., that a certain amount of pain is necessary and beneficial, and that etherization is only another term for intoxication. For the refutation of these objections, the reader is referred to our former volumes.

§ II.—Diseases of Women unconnected with Pregnancy.

1. *Urethritis in the Female*.—Dr. M'Clintock has recently narrated two cases of urethritis in females. One of these was a lady in the fourth month of her twelfth pregnancy, who had been suffering from this affection of the urethra for two months, and had tried a variety of means for its removal, prior to his seeing her. The other patient was a poor countrywoman, who had given birth to five children, three of whom were removed by craniotomy, in consequence

of a large osteo-sarcomatous tumour within the pelvis. The symptoms in both cases were nearly identical, and were as follows: Intense, burning pain during each act of micturition, accompanied with much straining and bearing-down. There was no discharge from the vagina, nor any evidence of disease of this canal or of the uterus. The urine of each, examined in the ordinary way, seemed healthy and free from albumen. Looking at the meatus urinarius, the mucous membrane of the canal was seen to be in a highly vascular and swollen condition, so as to form a considerable tumour at the orifice. This, when touched, was exquisitely sensitive. Having satisfied himself as to the pathological state of the parts, he commenced the treatment. In the first case, he began by trying astringent local applications, such as alum, zinc, and lead washes; and these failing to produce any beneficial effect, anodyne lotions of various kinds were next used, but with no better result; lastly, he applied directly to the part a strong solution of lunar caustic, but neither did this bring about any improvement in her condition. It then occurred to him to make trial of copaiba, which exercises a very marked influence upon the mucous membranes generally. He accordingly commenced with three capsules of the balsam in the day, and increased the number to four per diem. This treatment at once produced the most decided improvement; so that, after she had taken eighteen capsules, she was entirely freed from her torturing complaint.

In the second case, the complaint was of six weeks' standing, and, without waiting to try the effects of any other remedies, he at once commenced the use of copaiba capsules in the manner just described, and with a like satisfactory result, as a perfect cure was established before she had finished the contents of the box. A subsequent examination of the urethra showed that it had re-acquired its natural healthy characters. In commenting upon these cases, Dr. McClinton very clearly pointed out how they differed, in their symptoms and pathological nature, from gonorrhœa, from vascular tumour of the meatus urinarius, and from thickening of the cellular tissue surrounding the urethra—a disease first described by Sir C. M. Clarke. Lastly, he alluded to Dr. Ashwell's chapter on "Chronic Urethritis," in the last edition of his treatise on Female Complaints, which is the first work containing a description of it. The extremely uncontrollable nature of the disease described by Dr. Ashwell, which almost set any treatment at defiance, inclined Dr. McClinton to entertain suspicions as to whether the cases he met with could have been of the same nature as his; and yet that they really were instances of inflammation of the urethra he established beyond any manner of doubt. In order to reconcile these conflicting results, he could only suppose that his cases were of a milder character.*

2. *Inflammation of the Os and Cervix Uteri—in its connection with Functional Derangement and Displacement of the Uterus.*—This is the title of chapter xii. in Dr. Bennet's volume above alluded to, in which the author shows that many of the female ailments usually treated as separate diseases are in reality consequences of this morbid condition of the os and cervix uteri.

Leucorrhœa, when persistent, and mixed with pus, or thick, tenacious mucus, is, the author believes, always associated with inflammation and ulceration of the os and cervix. The connection between the latter and *amenorrhœa* is not so obvious, but the sudden suspension of the discharge may, in some cases, be the exciting cause of uterine engorgement and inflammation.

Dysmenorrhœa is more frequently the result of inflammatory disease of the womb than of mere functional derangement. It may also, Dr. Bennet observes, depend on narrowing of the cervical canal; but the two forms are, he thinks, easily recognized. Speaking of the latter form of painful menstruation, he informs us that there is naturally a kind of sphincter at the upper part of the cervical cavity, so that a difficulty in passing a bougie into the uterus is not *primâ facie* evidence of morbid contraction. On the contrary, he considers that a free communication between the uterine and cervical cavities, allowing of the free passage of the sound, is generally a sign of disease, excepting immediately after menstruation, or for some time after parturition.

Menorrhagia and uterine hemorrhage, in the unimpregnated state, are also,

* Reported in the Medical Times, March 10.

in the author's opinion, generally due to chronic inflammation and ulceration of the cervix. This condition is also, as was previously stated by Mr. Whitehead, the explanation of the cases of reputed menstruation during pregnancy.

Chronic inflammation of the neck and body of the uterus is a frequent, unsuspected cause of *sterility*. This is not to be wondered at, when it is considered that inflammatory engorgement may not only render the uterine canal impervious, but that, in addition to this, a viscid mucus is secreted, which entangles the spermatozoa, and prevents their access to the uterine cavity.

Abortion may both be caused by, and be itself the cause of, inflammatory ulceration; in the former case, it is produced in various ways. The vitality of the womb may be so modified by the disease, that the germ perishes in its earliest phases, or it may ensue, at a later period, from the incapability of the inflamed organ to bear the distension of the foetal development. At a still later date of gestation, the presence of ulceration may induce premature confinement, by exciting morbid reflex action.

The displacements, which the author refers to, as produced by inflammatory ulceration, are prolapsus, *ante-* and *retroversion*, and *retroflexion*. These conditions he shows to be dependent, in a large majority of cases, upon the increased size and weight induced by long-standing inflammation; and, moreover, he affirms that the symptoms which are referred to the altered position are in reality due to the inflammation and ulceration. He is not disposed to lay the same stress upon the displacement (alluding more particularly to retroversion and retroflexion) of the womb as is done by many recent writers, and, like Dr. Oldham, he considers the best treatment to be that which is directed to the reduction of the inflammatory engorgement and ulceration, and emitting all instrumental attempts at reposition as unnecessary.

3. *Inflammation of the Os and Cervix Uteri—Treatment*.—Dr. Bennet's experience, subsequent to the publication of the first edition of the present work, has tended in the main to confirm him in the views he then adopted.

He divides the treatment into two sections: 1st, that of inflammation without; and, 2d, of inflammation, with ulceration and hypertrophy.

The treatment of the first variety is considered under the several heads of vaginal injections, local depletion, and cauterization.

Vaginal injections are either simple or medicated; of the latter, Dr. Bennet prefers as an emollient the decoction of poppy-heads; as astringents, either alum, acetate of lead, sulphate of zinc, nitrate of silver, or laudanum. In public practice, he generally uses alum. These injections alone will often cure an inflamed cervix previous to the establishment of ulceration, and even then, if the ulcer be recent and superficial. The author gives directions both as to the instruments most serviceable and the precautions necessary for the use of vaginal injections, which it is important to bear in mind. A vaginal injecting apparatus, of great simplicity and usefulness, has been devised by Dr. Jones, and will be described at a future page.

Local depletion is accomplished by leeches or scarification. Although the cure is much expedited by these means, Dr. Bennet does not think them indispensable. He finds that his public patients, in whose cases he cannot carry out the application of leeches, do almost as well as others in whom local bleeding is used. He cautions the reader against too great freedom in local bloodletting, as, if the general strength of the patient is reduced by it, more harm than good accrues. He has also noticed the fact that the application of leeches once or twice a week for a lengthened period will often keep up the congestion, by deriving blood to the uterus. That they are capable of doing this, we have ample evidence in the fact that the menstrual flux may often be determined in this very manner.

The only caustic necessary in inflammation, without ulceration, is the nitrate of silver, which acts in this case rather as an astringent than as an escharotic.

When ulceration and engorgement have ensued, some modification of the above treatment is necessary, chiefly in the mode of employing cauterization, and in the agents employed. The nitrate of silver is the one most commonly used, and suffices in the less obstinate forms of ulcer. For others, Dr. Bennet uses more potent escharotics, as the acid nitrate of mercury, potassa c. calce, &c.

In the mode of using those which require great care and caution, we must refer to Dr. Bennet's pages.

Dr. Bennet speaks in commendation of the actual cautery, so much employed, and with so much success, by Jobert de Lamballe. The pain is trifling, and the reaction less than is seen after the use of less energetic measures.

In his remarks on the treatment of the hypertrophy, Dr. Bennet expresses his want of confidence in the local and general use of iodine, trusting to local depletion, and where this fails, to the modifying action of deep cauterization by potassa c. calce.

4. *New Method of applying Vienna Paste.*—Dr. Mitchell advises that this active caustic be inserted into a shallow circular disc, attached to a stem, and used with the aid of a speculum.

5. *Corroding Ulcer of the Uterus.*—Dr. Ballard has contributed a supposed case of this disease, for the purpose of inquiring into its nature, whether cancerous or not. The question is one which has not been satisfactorily determined, even by the most recent writers, though the majority look upon it as a specific ulceration, distinct from cancer. Dr. Ballard's case appears to be a doubtful specimen of the disease, inasmuch as there was some indurated deposit, exhibiting cells, "like cancer-cells." The distinctive character of this form of ulcer, which is allied to lupus, probably, rather than cancer, is, according to Dr. Ashwell, the absence of indurated deposit, the uterine tissue being normal, almost to the very confines of the ulcer.*

6. *The Actual Cautery in Uterine Affections.*—M. Jobert has for many years been in the habit of treating severe uterine hemorrhage (in the unimpregnated state, we presume), by the actual cautery to the cervix. There are, at this time, in his wards, six women, who were exsanguine, and, as it were, dying, when the hemorrhage was arrested by a single cauterization, and they have now regained their flesh and colour. Of these, some were the subjects of ulcerated carcinoma; others laboured under hypertrophy of the cervix, with granular ulceration. A third variety, treated by M. Jobert in his private practice, comprises those known as purpuric hemorrhages.

The cautery which he uses is of a globular form, and is applied with the aid of a large ivory speculum, over the whole bleeding surface, and is held in contact sufficiently long to cause a deep eschar. The patient experiences no pain, and the vagina is immediately washed out with cold water. From this time the hemorrhage generally ceases for some days, but as the eschar becomes detached, leucorrhœa, and finally hemorrhage, reappear. The cautery is then applied a second time, and produces the same effect. By this, the hemorrhagic tendency is further checked, and the fetidity of the discharges much lessened. A third and future cauterization, if necessary, becomes so at longer intervals. In the mean time, the patient recovers her strength, and may take iron and quinine. The cancer is by the above means checked, but not cured, and if left to itself, the same symptoms would reappear; but it has been observed, in many cases, that, if the patients are occasionally examined, and fungous granulations checked by the cautery, life may be indefinitely prolonged. When the hemorrhage depends upon simple hypertrophy with ulceration, a perfect cure is effected in two or three months.†

7. *Uterine Douche.*—As an auxiliary means of treatment in uterine affections, it is right to mention a contrivance made public by Dr. Jones, for the more effectual administration of vaginal douches and injections. It consists of a certain length of gutta-percha tubing, divided into two unequal portions. One of these, about two feet long, is fitted with a vaginal tube at one end and a joint at the other, adapted for the insertion of the lower end of the longer portion. This other portion may be of any length, but four or five feet are sufficient. One end is fitted to the joint first mentioned; the other is inserted in any vessel containing the fluid to be injected, and placed at a height above the patient corresponding to the length of the tube. When used, the vessel is placed on a shelf or other convenient position, and the patient, sitting over a bidet, inserts the vaginal

* Provincial Medical and Surgical Journal, April 4, 1849.

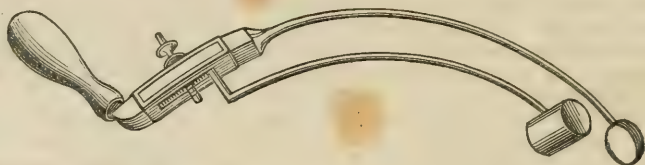
† Annales de Thérapeutique, and Prov. Journ., Jan. 24.

tube, and exhausts the air from the lower end of the longer portion; she then quickly fits it into the corresponding part of the shorter tube, when a continuous stream is immediately directed upon the os uteri, as long as any fluid remains in the reservoir. A further recommendation of this instrument is its cheapness.

8. *Uterine Polypus*.—An Italian surgeon, M. Comi, has introduced a modification in the operation of excision of polypoid growths, which consists in the use of an instrument resembling the midwifery forceps, instead of hooks, as a means of depressing the tumour. He is an advocate for excision in preference to ligatures in all cases.*

9. *Retroversion*.—Dr. Bennet, as we have stated, looks upon inflammatory engorgement as the chief cause of the displacement in the unimpregnated womb. At a further page (op. cit. p. 438), he objects to mechanical contrivances for repositing the organ, believing that the symptoms solely dependent on the displacement have been much exaggerated. He states that he is aware of many patients who are unconscious of the existence of a retroverted uterus, and consider themselves well after the subsidence of the inflammatory condition of the organ for which they were under his treatment.

— In Dr. Meigs' work (op. cit. p. 660), there is a description of an instrument, designed by Dr. Bond, of Boston, U. S., for the purpose of restoring the womb to its place in cases of retroversion. The instrument, of which the accompanying figure is half the size, consists of two arcs of circles of different



radii. Of these, the inner terminates in an oval piece of ivory; the outer in a circular one. The outer arc is formed at its other end into a plate-piece, in which is a mortice. To the end of the plate-piece is attached a handle. The inner arc is inserted into a sliding piece, also morticed, and overlapping by its edges the morticed plate-piece, and secured by a clamp traversing the mortices, and fastened or loosened by turning the thumb-piece. If the thumb-piece be unscrewed, the arcs are easily separated.

In order to use the instrument, the arcs are first to be separated, and the ivory ball on the largest introduced into the rectum, while the oval one is passed into the vagina. The two balls being made to reach the fundus uteri, the arcs are fixed by the clamp; and an instrument is thus formed which can be moved upwards parallel with the sacral curve, and thus carry the uterus before it. A case is given in which it succeeded admirably.†

— An account of the instrument, with an engraving by the inventor, appears in the "American Journal of the Medical Sciences" for April.

10. *Climacteric Disease in Women*.—Subsequently to the publication of the paper by Mr. Corfe on this subject, which is to be found among the extracts in the present volume (art. 71), Dr. Tyler Smith has, in a letter to the "Medical Times" of April 21, vindicated his own claims to a prior description of the disease, which he has given as an appendix to his volume above mentioned. This author alludes to it under the title of a "peculiar malady incidental to the decline of the catamenia." "There is," he observes, "a peculiar malady which has never been described, belonging to the period of the change of life, and allied in its nature to sphagiasmus. The so-called 'heats and chills' of this period consist of a real paroxysmal affection allied both to intermittent fever and epilepsy, particularly to the cerebral variety of the latter: sometimes it terminates in epilepsy, or mania, or even apoplexy. In fact, the malady is a fruitful source of mania, occurring in the female after the decline of the cata-

* Annali Universali, Juin 1848.

† Meigs, op. cit. p. 669.

menia. The disorder I refer to appears to consist of compression of the veins of the neck, and distension of the cerebral circulation, attended by vivid sensations of heat, flushing, and giddiness. These symptoms are soon followed by relaxation of the neck, coldness, and faintness, with perspiration over the whole surface of the body. The paroxysms occur many times in the twenty-four hours."

11. *Ovarian Diseases*.—The first article in our midwifery extracts contains a portion of a series of essays by Dr. Tilt on the various forms of ovaritis, which exhibit a more than usual acquaintance with the pathology of those important organs, the ovaries. The remaining part of the essay will appear in our next volume.

12. *Ovarian Tumour, Spontaneous Evacuation of, by the Bladder*.—The following interesting case occurred in the practice of Dr. Hughes Bennett:—

A female, æt. 25, was admitted into the clinical wards of the Edinburgh Royal Infirmary, in November 1848. She had been delivered a fortnight previously. The abdomen remained large, and, when examined, the size was that of six months' pregnancy. The tumour was irregular and nodulated; no fluctuation could be detected. Her general health was good. She remained much in the same state for four days, when Dr. Bennett's attention was directed to the urine, which presented a copious white deposit with a supernatant liquor of an amber colour. The deposit was found to consist of pus, mingled with compound granular cells. The clear portion was coagulable. A large quantity of this matter was discharged for several days, and, at the same time, the tumour was observed to have diminished. A flannel roller and pressure were then resorted to, and the diminution gradually became more marked, until, at length, the tumour was not perceptible to the eye, and the urine again became of a natural character.*

13. *Ovarian Cyst ruptured by a Blow*.—An instance of this accident, terminating fatally by peritonitis, is reported by Mr. Herapath, of Bristol. Eleven weeks appear to have elapsed between the rupture, which arose, in consequence of a fall on the abdomen, and the death of the patient. After death, the rupture was discovered, and the abdominal contents were closely matted together by inflammatory deposit. The contents of the sac consisted of sero-purulent fluid, masses of fat, and hairs. On examination, the latter had all the characters of adult hair.†

14. *Ovariectomy*.—Three cases of this operation have to be noticed in the present Report: two successful, by M. Vaugirard and Dr. Miller; the other fatal, by Dr. Branson.

—M. Vaugirard's case is the first instance of the operation in France. It was performed on a female, æt. 25, who had enjoyed good health until the year 1842, when the commencement of the disease occurred. The first tapping took place in 1844, and from that period until the date of the operation, October 15th, 1847, she was tapped fifty-one times. The operation is thus described:—

Insensibility having been produced by ether, an incision three inches in length was made to the left of, and parallel with, the linea alba; six or eight pints of fluids were allowed to escape, and the length of the incision was then increased to seven inches. The tumour, which was dark coloured, then presented itself, and was punctured, and a further portion of its contents evacuated. The pedicle was then transfixed and ligatured, after which the sac, weighing nine pounds, was removed. The wound was then united by three sutures.

On the 7th day, union had nearly taken place, and on the 16th, the ligatures came away. The woman does not appear to have had any febrile reaction.‡

—The subject of Dr. Miller's case was aged 37, and had first observed the tumour a few months previously. On examination, Dr. Miller discovered a large tumour in the abdominal cavity, extending considerably above the umbilicus, and mostly occupying the right side, but stretching across the linea alba. Its shape was irregularly globular, and its consistency variable, being, at some points, much firmer than at others; and, in portions of it, fluctuation could be

* Edin. Monthly Journal, Feb. 1849.

† Edin. Med.-Chirurg. Review, Jan. 1, 1849.

‡ Gazette Médicale.

distinguished. Pressure upon it, even rude handling, gave no pain, and it appeared to be, in some degree, movable in the cavity.

Examined per vaginam, the tumour could be felt within the pelvis, and the uterus was found in its normal condition.

The operation of excision was performed on the 6th of April, 1848, with the assistance of Professor Gross, Drs. Bayless, Colescott, W. B. Caldwell, and T. J. Richardson. The patient being placed upon the table, on her back, her feet resting upon a chair, and the chloroform having been administered, an incision was made through the integuments, over the *linea alba*, from the umbilicus to the pubes. The fasciæ and peritoneum were then divided, by several strokes of the scalpel, at the upper part of the incision, and a finger introduced to guide the probe-pointed bistoury, with which an incision was made through these tissues corresponding to that of the integuments. The tumour was now brought to view, and found adherent, though not very firmly, to the omentum and parietes of the abdomen. To break up these adhesions, Dr. Miller passed his hand into the abdominal cavity and around the tumour, and had no difficulty in accomplishing the object. It was soon ascertained that the tumour was too large to be pushed through the opening that had been made; but rather than extend this, he punctured two of the cysts, and discharged a quantity of fluid, like that which had been drawn off by tapping a week previously—the quantity could not be estimated, as it was suffered to run upon the table, whence it flowed across the room. By getting his hand posterior to it, Dr. Miller now drew the tumour through the incision, and supported it, while Professor Gross secured its pedicle by a strong ligature passed through the broad ligament, and tied round the Fallopian tube and ligament of the ovary, and then severed its connections by cutting across the broad ligament near the inferior part of the diseased ovary. The vessels of the outer extremity of the broad ligament bleeding considerably, were secured by another ligature which included the whole of its margin.

The tumour being removed, the ovarian fluid which had been effused, in considerable quantity, into the abdominal cavity, and likewise the blood, were carefully sponged out, and the incision was closed, as usual, by the interrupted suture, adhesive strips, compresses, and bandage, the ligatures having been brought out at the inferior part of the incision. The operation was commenced at 1 P. M., and the patient was put to bed in less than an hour, having borne it remarkably well; in fact, she felt, as she declared, very little pain, being under the influence of the chloroform.

Nothing very remarkable occurred during the convalescence; the sutures were cut out on the thirteenth day: on the 19th, one of the ligatures yielded to gentle traction; "but the other, although gently pulled at every dressing, did not yield until the 7th of May (the 31st day), at which time the wound was firmly closed, except the small opening through which the ligatures were brought out."

The tumour, notwithstanding the tapping and the puncture of two of its cysts, at the time of the operation, weighed nine and a quarter pounds. It is composed of many cysts, of various sizes, having strong thick walls, with smooth, polished linings, and filled, as many of them as were opened for inspection, with the same ropy, white fluid as that discharged by the trocar.

—In the fatal case recorded by Dr. Branson, the disease had existed three years. The first tapping was performed in 1847. From this time, the patient lost ground, but her complexion remained so healthy as to preclude the idea of malignant disease; and, as she had never suffered much pain in the tumour beyond the inconvenience arising from its bulk, there was no reason for supposing that any peritoneal inflammation had at any time existed. Still she grew thinner, and her finger rings became too large for her, a positive proof that the process of absorption was now going on rapidly. About ten days after the last tapping, on June 5th, the wound made by the trocar spontaneously re-opened, and a considerable discharge of fluid took place, and continued, more or less, for some days. The discharged fluid was most probably ascitic, for the general size of the tumour was not very materially diminished by its evacuation. The catamenia had never appeared. The advice of Dr. Clay

was now sought, and Dr. Branson met him in consultation. The abdomen seemed as much distended as in the last period of pregnancy. A solid tumour, of a somewhat oblong form, supposed by Dr. Clay to weigh five or six pounds, was distinctly felt rising upwards, from the situation of the right ovary; two other sacs were supposed to exist, one of moderate size, which occupied the umbilical region, and one much larger, which occupied nearly the whole of the left side of the abdomen. The whole tumour being movable, and as traction of the tumour from various points produced no sense of dragging or pain, Dr. Clay was satisfied there existed no formidable adhesions. A careful uterine examination was also made, and the uterus was pronounced free from disease, nor could any trace of disease be detected in any other vital organ. All these circumstances having been taken into consideration, Dr. Clay gave a decided opinion that the case was a fair one for operation. At length, after anxious consideration, it was determined to state the case candidly to the young lady herself, leaving the decision of the question to her alone. She resolved to submit to the operation.

The bowels having been carefully regulated for some days previously, and the general health being in as satisfactory a state as could, under the circumstances, be expected, Dr. Clay commenced the operation in a room properly heated for the purpose, the patient being under the influence of chloroform. It was previously agreed upon that a small exploratory incision should first be made, and, in the event of any formidable adhesions being met with, the wound was to be immediately closed, and the operation abandoned. This was carefully done; a considerable quantity of ascitic fluid escaped, and, as no adhesions whatever could be felt on the anterior surface of the tumour, the wound was rapidly enlarged upwards and downwards to the extent of about nine or ten inches. This brought the tumour fairly into view, bulging out from the lips of the wound. To lessen the bulk of the tumour, the largest cyst was punctured, and about five or six pints of gummy, glairy fluid drawn off, very different in character from that which escaped spontaneously after the last tapping. On attempting to raise the mass (for the solid portion of the tumour was larger than had previously been imagined), it was found to be tied down posteriorly to the omentum by several bands of lymph, and at one point it was adherent to the bowel. These adhesions were easily peeled off; the pedicle was grasped and tied with a double ligature, and the tumour separated and removed. The wound was then rapidly closed, and held together by six or seven interrupted sutures, the whole operation occupying fifteen minutes; and in little more than twenty minutes' time from the commencement of the operation, the bandages were applied, and the patient again in bed. The action of chloroform was apparently most satisfactory; she lay as in a calm sleep, perfectly unconscious, till nearly the last suture was introduced, when she awoke, and expressed great thankfulness that the operation had been so painlessly performed. For the first twenty-four hours, all went on well; but, thirty hours after the operation, the breathing was somewhat quickened, the pulse had become rather more frequent, and she had vomited two or three times. There was still no action of the bowels. At four o'clock in the morning, thirty-eight hours after the operation, she became suddenly worse; she complained much of flatulency, the countenance was anxious, the respiration hurried, and to these unfavourable symptoms was added general restlessness; this was followed by rapid sinking, and she died forty-four hours after the operation, apparently from the shock of the operation, and not from peritoneal inflammation.

The solid portion of the tumour was found to exceed considerably all previous calculation; it passed backwards towards the spine, thus rendering external manipulation of little avail in calculating its bulk. It weighed twelve pounds; and, as about six pounds of cystic fluid, and at least nine or ten of ascitic fluid, were also drawn off, the abnormal contents of the abdomen must have amounted to nearly thirty pounds. The tumour did not consist, as was supposed, of a solid mass, and two separate cysts, but was made up of innumerable cysts, varying much in size, from that of a pea to one containing several pounds. The solid portion was also composed of cysts, containing a

semi-fluid, dark-coloured, grumous, and brain-like matter; it is evident, therefore, how small an amount of relief would be gained by tapping.*

15. *Statistics*.—Dr. Clay, the operator in the foregoing case, has collected and published the results of his experience respecting ovariectomy. It appears that he has opened the abdominal cavity thirty-nine times, and the results of his operations are as follow:—

- 1 Tumour purely uterine; operation fatal.
- 1 Large uterine tumour with ovarian disease; fatal.
- 1 Large ovarian tumour with uterine enlargement; the whole removed.
Fatal on the fourteenth day from the effects of a fall.
- 5 The operations not proceeded with; 4 recoveries; 1 death twenty days after the operation.
- 31 Cases of uncomplicated ovarian disease. Of these 22 recovered, and 9 died.

Total: Recoveries (including exploratory incisions)	26
Deaths	13†

16. *Sterility*.—Dr. Tilt believes that a great majority of cases of sterility in the female is the consequence of subacute ovaritis, the history and symptoms of which will be found in a former part of this volume. The treatment of this imperfection is, therefore, merged in the treatment of the inflammatory disease of the ovaries.

—The subject of sterility in general has also been noticed in a paper published in the “*Lancet*,” by Mr. Gream. This has since appeared in the form of a very objectionable pamphlet, which, we are happy to be assured by Mr. Gream, was issued without his knowledge or assent.

—Dr. Tyler Smith acknowledges, with Dr. Tilt, that there is a form of sterility having for its cause the plugging up of the Fallopian tubes by glutinous secretion, and has suggested an instrument for the catheterism of these conduits. The instrument consists of a very delicate canula, curved at its extremity so as to assume the course of the tube, and carrying a capillary whalebone probe or bougie. The instrument is used with the aid of a speculum; and, according to Dr. Tyler Smith, is readily guided to the orifices of the tubes. It does not appear, however, that he has used it in the living subject in more than one instance. We do not anticipate any practical results from this ingenious instrument.‡

—Dr. Rigby has published cases of sterility caused by anteversion of the uterus, the details of which may be read with advantage.§

‡ III.—Pregnancy—Labour—The Puerperal State.

17. *Vomiting during Pregnancy*.—Dr. Stoltz, of Strasburg, lays down the following rules for the treatment of this distressing affection:—

The first thing to be done, when we have to treat a pregnant woman affected with obstinate vomiting, is to examine carefully whether the affection be the result of simple pregnancy, or whether there be any complications. In the latter case, the first indication is to treat the complications. Thus, if there be signs of plethora, venesection must be practiced, without any anxiety as to the term to which pregnancy has advanced. We may also have recourse to the application of leeches to the hypogastrium, to the upper part of the thighs, or to the perineum, in cases of uterine congestion or inflammation, indicated by a feeling of weight in the pelvis, and pains in the hypogastric region. If there be a feeling of uneasiness in the gastric region, we adopt a mild antiphlogistic treatment, apply some leeches to the epigastrium, give cooling drinks, and administer laxative enemata; a remedy which is by far preferable to evacuant medicines. After having thus simplified the problem by removing its complex elements, if the vomiting continue, the cause must be sought for in certain general or particular conditions which are entirely peculiar to pregnancy; such as the general excitability of the nervous system, which is reduced by anti-

* Provincial Medical and Surgical Journal.

† *Lancet*, May 19.

‡ *Obstetric Record*, vol. ii. 1849.

§ *Medical Times*, May.

spasmodics, or the morbid excitability of the stomach, the remedies for which are cold or iced drinks in small quantities, the application of an opiate plaster over the stomach, and the internal administration of oxide of zinc and tris-nitrate of bismuth. In some women, instead of a morbid sensibility of the stomach, the mucous membrane appears to be deficient in tone. It is then that the greatest benefit is obtained from the use of mild stomachics; such as aromatic infusions, distilled waters, infusion of calumba, alcoholic liquors, excitant and antispasmodic draughts; and if this nervous excitability be complicated with a more or less apparent state of chlorosis, tonics and preparations of iron are administered, and recourse may be had to the application of belladonna to the hypogastric region, or a continuance in the horizontal position. There are still, though fortunately rare, some cases of vomiting which the best-directed efforts fail in curing. In such cases, if the woman is reduced to a state of extreme emaciation, if hectic fever has manifested itself, if every kind of food is rejected, if marasmus makes continual progress, if the patient is threatened with death from inanition, at an earlier or later period, is it not evident that abortion ought to be provoked? since it has been observed that these symptoms have then disappeared, where the vomiting was purely sympathetic with pregnancy, or with a morbid state which it induced or maintained.

With the object of giving clearness to this part of the treatment of vomiting during pregnancy, the author has collected a great number of facts, already reported, or which have been communicated to him. He has arranged them under three categories: The first includes eleven cases of vomiting terminating fatally; in six, abortion had not been proposed; in three others, abortion had been proposed, but not practiced, in consequence of a difference of opinion; finally, in two others abortion, had been unsuccessfully tried; but, in one case, the operation failed in consequence of an obstacle.

The second category comprehends cases of severe vomiting, cured by spontaneous abortion or premature labour. Cases of this kind are very numerous. Finally, the third category includes the cases of severe vomiting cured by artificial abortion. In this category, are reckoned three well-observed cases of premature labour, and many others simply mentioned. Finally, a case of abortion—properly so called—and others, which are mentioned very briefly by authors. One case alone (and that of doubtful authority) is known in which severe vomitings have permitted pregnancy to arrive at its full term.*

—Dr. Meigs states that, in a great number of the cases of obstinate vomiting in pregnancy, the symptom may be suspended by causing the patient to take a cup of coffee and dry toast very early in the morning, after which, she is to be quiet till her usual time of rising.†

18. *Uterine Moles*.—*New Symptom of*.—It is well known that the diagnosis of false conceptions, as they are called, is exceedingly difficult; the pretended signs derived from the shape of the abdomen, its more rapid development, absence of foetal movements, &c., being far from affording positive information. The new sign of M. Vannoni will not, we fear, tend much to clear up the obscurity; but, such as it is, we lay it before our readers. Having studied uterine auscultation with great assiduity, this writer thinks that he has discovered a double intonation in the uterine bruit, one rough, the other smooth. He also finds that, in natural pregnancy, the soft sound predominates, while, in disease and death of the foetus, the rough and smooth sound are of equal intensity and duration. The same, he concludes, will be the case in moles; and, having predetermined the point, he soon found a case in support of his hypothesis. Little value, we need scarcely say, is to be attached to this communication.‡

19. *Extra-uterine Fotation*.—*Gastrotomy*.—The particulars of this remarkable case were related by M. Tueffard to the French Academy of Medicine.

The patient, a little, thin woman, æt. 40, had been pregnant five times previously to the present illness; of these pregnancies, four ended in premature labour at seven months; the fifth arrived at full term. The extra-uterine was the sixth pregnancy. The foetal movements were very perceptible up to the

* London Journal of Medicine, No. 2.

† Op. cit. p. 167.

‡ Gazzetta Toscana; Revue Méd.-Chirurgicale, Dec. 1848.

sixth month, when, after exertion, the patient felt the child suddenly start up towards the left hypochondrium, and then fall back again in the iliac region of the same side. She had, at the same time, violent abdominal pain and considerable hemorrhage. From this time, the fœtus ceased to move, and the body diminished in size. Her symptoms afterwards were frequent and copious hemorrhages of periodical occurrence; in the intervals, excessive abdominal pain. When seen by the author, these symptoms had continued for six months. He discovered a tumour above the right groin, in which it was easy to perceive the form of the fœtus. The os uteri was healthy and closed, the cervix of its natural size, and the whole organ was movable. The patient being very anxious for an operation, after the inhalation of ether the author made an incision over the tumour, in a direction parallel to the linea alba. After dividing the skin, muscles, and peritoneum, he came upon a whitish membrane, forming a cyst, and containing a matter very similar to adipocite; below this, was another cyst, which contained the limbs and trunk of a fœtus, the head and upper extremities having escaped into the general cavity of the peritoneum, to which they had contracted firm adhesions. Further examination showed that the fundus of the uterus was destroyed, the cyst containing adipocire being closely adherent to, and forming one cavity with, the uterus; the cysts were removed, and the abdominal incision closed by interrupted suture. As the vagina communicated directly with the peritoneal cavity, it was not necessary to insert a tent into the lower part of the incision, the discharges being enabled to drain off *pervias naturales*. The subject of this extraordinary case is said to have perfectly recovered.

20. *Multifetation—Quintuple Birth.*—An instance of unusual fecundity was met with, and is recorded by Mr. James Russel, in which five fœtuses were expelled; of these, the largest was six inches, and the smallest five inches long; of course they were all dead. There was not any hemorrhage, and each fœtus was expelled by one separate pain. The uterus contracted so firmly that it was impossible for the attendant to get his finger within the os, for the purpose of removing the placenta; he consequently remained with her, and, after an hour and a half, no other pain manifesting itself, he desired that she might take a draught, with infusion of roses, and a drachm of ergot of rye. This, in about four hours, was followed by a solitary pain, and the placenta came away. Upon examination, it was found to be of the ordinary size for the period, and had attached to it five umbilical cords, arranged in a circular form around the centre.*

21. *Labour, and its Complications—Premature Labour—Circumstances under which it may be induced.*—Professor Paul Dubois attempts to define the cases, exclusive of contracted pelvis, in which it becomes requisite to induce abortion. The propositions on the subject laid down by him are subjoined:—

“1st. Premature labour is more certainly indicated, and induced with more chance of success, according as the morbid states for which it is resorted to as a cure are more closely connected with pregnancy, and the necessary concomitant conditions of that state.

“2d. Further, success is more probable according as the circumstances indicating the operation are likely to disappear on the cessation of pregnancy.

“3d. It is necessary that the operative procedure be simple, and such as adds no additional danger to that which already exists.”

From these propositions, we may deduce the following consequences: That artificial labour will succeed best in those maladies aggravated chiefly by the mechanical changes in the uterus; whilst, on the other hand, the chances of success will be less when the operation is performed for an intercurrent disease. Further, those cases arising from, and depending upon, simply mechanical causes will be more likely to be benefited than those arising from sympathetic changes.

The first mechanical condition requiring the operation is *excessive dilatation of the uterus by superabundance of liquor amnii*. In illustration, a case occurring in the practice of M. Duclou (see Bulletin de la Faculté, tom. vi. p. 222),

is cited, where artificially induced labour evidently saved the mother's life. Another interesting case is mentioned, where M. Stoltz had resolved to resort to the same plan under circumstances of the greatest urgency, but nature had completed the work before his arrival at the patient. The waters had flowed off, and complete delivery restored the woman to comparative health.

The second set of cases sometimes demanding the operation, are those where, in addition to the pregnant uterus, *the abdomen contains a large tumour*. Thirdly, cases where, from *malconformation of the pelvis and trunk*, there is not sufficient space for the uterus to develop itself. We may remark, however, that, in these last sets of cases, premature labour generally comes on spontaneously.

Fourthly, cases of *retroversion of the uterus*, in which it becomes impacted in the small pelvis.

Fifthly, those cases of *uterine hemorrhage* where nothing but the evacuation of the ovum, and the contraction of the uterus, will stop the bleeding.

We now come to another series of cases demanding the operation; and first, we mention those nervous diseases which may demand it when they exist to an excessive and dangerous degree, as *chorea, convulsions, &c.* But M. Dubois inculcates extreme caution in such cases, as also in cases of *obstinate vomiting* during pregnancy. Two cases are mentioned in which *cholera* supervened upon pregnancy; in one, labour was induced; in the other, it came on spontaneously; both women recovered.

There is another series of cases sometimes demanding the operation; namely, where there exists chronic disease, very much aggravated by the mechanical distension of the uterus, as *disease of the heart, of the aorta, asthma, &c.*

Again, it has been proposed to bring on labour in cases where the child has been previously found to *die at some regular time*, before the completion of the ninth month. But this ought to be done only when the infant is still alive and viable, and even then it should be resorted to with reserve, as there may be hope that the disease which caused the death of the child in a former pregnancy may have now disappeared.*

22. *Retroversion, during Pregnancy.*—M. Van Heugel relates a case in which spontaneous reposition of the uterus took place after emptying the rectum and colon of an immense quantity of impacted feces.

A young woman, three months advanced in pregnancy, experienced great difficulty in making water, with pain in the abdomen. On examination, the os uteri was found under the pubes, and the fundus projected upon the sacrum, and depressed into its hollow. The urine was drawn off, and a large enema was exhibited by means of a tube, which was passed up to the sigmoid flexure; an enormous quantity of scybala was thus removed, and upon a subsequent examination, it was found that the fundus had resumed its natural situation.†

23. *Engagement of a Loop of Intestine before the Womb during Labour.*—Dr. Meigs relates an instance of this rare complication. The patient was a primipara. The labour had proceeded regularly until the os was almost fully dilated, when she began to complain severely at the occurrence of each pain. Dr. Meigs was induced, from the severity of the suffering, to suspect that rupture of the uterus was impending; but on examining the abdomen externally, the cause of the unusual pain became evident. Dr. Meigs found an irregular eminence, which, from its sonority on percussion, he recognized as a loop of intestine, which had slipped down between the fundus and the abdominal parietes, and which was severely compressed by the uterine and abdominal contractions. He was enabled to push up the intestine, after which the labour proceeded naturally.‡

24. *Placenta prævia—Extraction of the Placenta.*—Dr. Meigs thinks that too much confidence is placed in this proceeding as a means of arresting hemorrhage, but he bases his opposition rather upon his objections to the anatomical

* L'Union Médicale, Nov., and Edinb. Monthly Journal, Dec. 1848.

† Revue Médico-Chirurgicale, Sept. 1848.

‡ Op. cit. p. 427.

explanations connected with the mode in which the bleeding is arrested, than upon any practical experience he can lay claim to.*

25. *Rupture of the Uterus—Recovery.*—The following is an unequivocal instance of recovery from this severe accident, with the additional and most remarkable complication of abscess of the abdominal parietes.

The patient, a corpulent female, æt. 40, was attended by Mr. Church, of Sittingbourne. On the 9th September, the os uteri being fully dilated, this gentleman was sitting by her, expecting a speedy termination to her labour, when she suddenly exclaimed that she had the cramp in the abdomen; she soon afterwards vomited. On examination, it was found that the head had receded, and the limbs of the child could be distinctly felt in the peritoneal cavity. On introducing a hand, an oblique rent of the fundus was discovered. The child was extracted dead, and the placenta soon followed. An opiate was given.

The next day, vomiting became urgent. The tongue subsequently became brown, and the abdomen tender and tympanitic; afterwards, diarrhœa ensued. Fomentations externally, and opium and hydrocyanic acid internally, formed the principal treatment. On the 25th, a circumscribed redness was noticed to the left of the umbilicus, which ended in an abscess, discharging a large quantity of fetid pus. The same was also discharged per vaginam. The debility consequent on the immense discharge was met by nutriment and stimulus, and the patient eventually made a good recovery.†

26. *Prolapse of the Funis during Labour.*—Dr. Hoffman does not admit the validity of the explanation of this occurrence, which refers it to a disproportionately large pelvis or small head. If this were the case, the accident would, he thinks, be met with far more frequently than it is, and especially during premature labours. He believes it to be dependent upon an irregular contraction of the uterus, whereby the lower segment of the organ becomes unduly relaxed. He has never met with it in cases in which the pains have manifested their normal activity, but only in those in which they have assumed a spasmodic character. Upon these grounds, he declares the mere reposition of the funis, unless the character of the pains can also be changed, to be of no avail; for the lower segment of the uterus not being applied to the head in these irregular pains, as it should be, the prolapsus is sure again to recur.

Moreover, the reposition of the funis is opposed by a general law which, however easily demonstrable, the author does not recollect to have ever seen stated. It is that *when, during the progress of labour, any portion of the ovum has quitted the cavity of the uterus, it can never be replaced.* As soon as any of the liquor amnii is discharged, the walls of the uterus become closely applied to the contour of the child, and the size of its cavity *pro tanto* diminished. Just in proportion as the parts of the child quit this cavity does its size continue diminishing, and neither a spontaneous nor artificial return of these is possible. So it is with the funis; the cavity of the uterus having diminished in size since its descent, there remains no longer room for it. The general conclusion to be drawn is that, when the funis is prolapsed, to save the child, we must resort to turning, and place no reliance in the various instruments which have been contrived for its replacement.‡

—Dr. Meigs recommends the following method of reducing the prolapsed cord:—

“Take a piece of tape, a quarter of an inch wide, and four or five inches long; half an inch from the end, fold the tape back, and sew the edges, so as to make a small pocket; repeat the same at the other end. Now, if the cord be taken in the tape and held as in a sling, a catheter may be pushed into one of the pockets, and this again into the other, so that we have the cord held as in a sling, which is itself supported by the catheter. Let the catheter be now pushed up into the womb beyond the foetal head; it will carry the cord with it; and the catheter being withdrawn, the tape is left in the uterine cavity, where no harm can arise from its presence.”§

* Op. cit. p. 387.

† Lancet, May 19.

‡ Neue Zeitschrift für Geburtskunde; Brit. and For. Med.-Chirur. Review, April 1849.

§ Op. cit. p. 414.

— Mr. J. B. Brown narrates an instance of prolapse of the funis at the second month of pregnancy. The accident was followed by abortion.*

27. *Turning in Narrow Pelvis.*—In proceeding with the continuation of Professor Simpson's essay, we beg the reader's attention to the last volume, p. 306, in which the author has studied the subject in reference to its effects on the maternal life. The next portion of the communication is devoted to the consideration of the comparative danger of local lesions to the vagina and uterus in delivery by turning, and delivery by instruments respectively.

On each of these points, Dr. Simpson remarks at some length, and concludes with the following deductions:—

1st. Morbid contraction of the brim is, whatever mode of delivery be adopted, liable to cause rupture of the uterus.

2d. This morbid contraction becomes chiefly a cause of rupture, when, in conjunction with it, the labour has been allowed to become long and protracted; and the compressed tissues of the cervix have, consequently, been rendered preternaturally friable. Then—

3d. It necessarily follows that this complication would, in all probability, be avoided, provided either nature or art was enabled to deliver the patient early, and did not permit of the tissues of the lower part of the uterus to become wedged in, contused, and softened, between the presenting part and the points of contraction of the pelvic brim. Hence, a power of artificially terminating labours with this complication, as soon as dilatation of the passages permits, would be so far a means of averting this fearful accident. In delivery by turning, we have such a power; and, by the exercise of it in these cases, we may, I believe, not only save the mother, but the child; and I have already shown, at sufficient length, that the degree of force required to extract the head will depress and groove the cranial bones of the child, without necessarily tearing or injuring the soft pelvic tissues of the mother, provided always these tissues have not been previously brought into a state of friability by the duration of the labour. All the evidence adduced in different parts of this memoir goes to show the fact that the danger attendant upon turning, and other modes of operative delivery, is, as a general rule, regulated less by the mere performance of the operation than by the time allowed to elapse prior to operative interference. And, in addition, the evidence brought forward in the last section (see Abstract, Vol. VIII. p. 252) appears to entitle us to deduce, as a corollary from this law, that (supposing the soft parts are dilated or dilatable), when operative delivery by the forceps, or crotchet, or turning, is accomplished with *comparative force*, it is safer, *ceteris paribus*, to the mother, if performed *early*, than the same operation would be if accomplished with *comparative facility*, but performed *late*; in other words, that force is less dangerous than protraction.

4th. It must still be held constantly and prominently in view, that, in the proposed practice of turning, the great maternal danger to be avoided is injury and laceration of the uterus, and care must be taken to avert this accident. The preceding observations point out that, in order to avoid it: 1st, the operation should be performed early, even, if possible, before the membranes are ruptured; 2d, if the waters are evacuated, and the uterus has contracted, the uterine fibres should previously be relaxed by opium or chloroform; 3d, the actual turning should be done with extreme caution, and during the intervals of the pains.†

[The completion of this memoir being not yet accomplished, we must defer its further notice till our next volume.]

28. *Suction Tractor as a Substitute for the Forceps.*—Dr. Simpson has called attention to the possibility of making a practical use of the suggestion, made long since by Dr. Arnott, of extracting the child by means of a force afforded on the principle of the vacuum. The instrument devised consists of a syringe and piston, having a disc attached, formed of a double cup made of Indian rubber or gutta percha. By this, a sufficient hold of the head can be obtained to allow of its extraction.

— The merit of this invention was, soon after its promulgation, claimed by

* Lancet, Nov. 4.

† Provincial Journal, Jan. 10, 1849.

a Dr. Mitchell, a recent pupil of Professor Simpson's, and a correspondence has been the consequence, which, as far as we can ascertain, exonerates Dr. Simpson of having, as he is accused, availed himself without acknowledgment of Dr. Mitchell's ingenuity.

— The idea of using atmospheric pressure for obstetrical purposes appears also to have occurred to Mr. James, of Exeter, but the idea was never carried into execution.

To those who are curious in the matter of controversy, we may state that the correspondence between Drs. Simpson and Mitchell may be found in the "Medical Gazette," April 6 and 13, and in the other weekly journals of the same date.

29. *Tractor Vectis*.—Under this title, Mr. Ogden describes an instrument, the superiority of which consists in its being used as an extractor, and not as a lever of the first kind, on which latter principle the forceps partly, and the lever wholly, act. On this account, it is less liable to injure the mother and child than ordinary instruments. In appearance, it much resembles one leg of the forceps, excepting that the curve is sharper, and the oval ring or fenestra is so shaped as to allow of a secure hold on the chin or occiput. The oblong diameter of the fenestrum is 1 7-8ths of an inch, and the transverse 1 1-8th of an inch. The rim encircling this is of uniform thickness, and 3-8ths of an inch wide. The mode of applying the vectis, in a natural presentation, is to introduce it with the convex side towards the hollow of the sacrum, and, when arrested by the contact of the curve with the promontory, it is to be carried under the ramus of the ischium to the right or left, as the case may require, pushing forward the instrument in the axis of the ear, and raising the handle, when the curve adapts itself to the chin, and, receiving it into its fenestrum, becomes placed in a line from the ear to the vertex.

Mr. Ogden states that he has accomplished delivery with this instrument in several cases of contracted pelvis, and in others where in previous labours craniotomy had been required.*

30. *The Puerperal State—Puerperal Fever*.—Professor Martin, of Jena, concludes an able memoir on this subject with the following summary:—

1st. The term *puerperal fever* is one which deserves to be retained in our medical nomenclature, since all the febrile diseases incidental to childbed originate in one common cause.

2d. This common cause may be traced to the peculiar character of the blood of women in childbed.

3d. Besides this general cause, which is necessarily incidental to the puerperal condition, there is another special incidental cause, not of invariable, although of very frequent occurrence, which is connected with the simultaneous deviations in the character of the blood that are observed in many cases, and which appears to influence the nature of the febrile condition, and in part, likewise, the mode and locality of the deposition.

4th. These incidental deviations in the character of the blood are the causes of the epidemic occurrence and difference of the puerperal fever; but they may also be induced in some women by individual circumstances, in which case, they affect the symptoms, course, and termination of the disease in the greater number of those affected at the same period, although there may not actually be any epidemic at the time.

5th. Such sporadic cases of puerperal fever do not, however, necessarily presuppose a special disposition, since any morbid exciting cause may induce puerperal fever where there is no other predisposing cause than that incidental to childbirth generally.

6th. A distinction between the differences in the character of the fever is fully as important for the prognosis and therapeutics of the disease, as for the separation of the individual local affections, which, in their turn, influence the different forms of puerperal fever.

7th. These local affections consist in the derangement of certain constituents of the blood, or in the transformation of the blood itself, and vary considerably,

* *Obstetric Record*, Feb. 1, 1849.

according to the epidemic or sporadic character of the blood on the occurrence of the disease, whence plastic depositions and softening of the tissues (in consequence of infiltration with serum) may equally occur.

8th. Local affections are most frequently met with in the interior portion of the sexual organs, especially in the uterus; but they likewise often occur in remote parts of the body, without there being any evidence of a previous uterine derangement. These affections are not, therefore, of special importance with reference to puerperal fever.

As the principal objects for future inquiry into the nature of puerperal fever, the author mentions the following:—

First. Chemico-microscopical examination of the blood, urine, sweat, &c., of women in childbed, pursued simultaneously in the case of many, and renewed at different times, with a comparison of the results of investigations carried on simultaneously with reference to the blood of healthy women not pregnant, and not immediately after childbirth.

Second. Chemico-microscopical investigations of the blood, the secretions and excretions of women suffering under puerperal fever, carried on simultaneously in the case of many, or at different periods and at different epochs of the disease, having constant and special reference to the symptoms, mode of treatment, and the termination of the disease.

Third. A careful investigation of analogous dyscrasic processes of exudation, as, for instance, of rapidly fatal termination of peritonitis exsudativa in scrofulous and gouty persons.

Fourth. A more careful distinction between the different febrile characters, that is to say, between the peculiar varieties in the symptoms and exudations observed in the case of one and the same local affection, and a comparison of these with the individual character of the blood. And, finally,

Fifth. A distinction between individual local affections, and between the different forms of puerperal fever.*

31. *Causes of Endemic Puerperal Fever.*—The prominent causes of puerperal fever, as it occurred in the midwifery hospitals of Vienna, have been noticed, in a communication to the Medico-Chirurgical Society, by Dr. Routh. The remarks, however, apply only to one hospital, in which the deliveries average from 250 to 300 a month. These labours are conducted in two departments, one devoted to the instruction of medical men and midwives, the other to midwives only.

The mortality in the division for midwives and medical men has generally been thirty per month, and has occasionally been seventy. In the division for midwives only, the number of deaths has generally been from seven to nine per month. The clinical instruction is conducted on precisely the same general plan in the two departments; but the medical men receive also practical instruction in a private course, in which the operations are performed on the dead body of some female, while the midwives receive this instruction by means of the leather figure. The frightful mortality in the division to which medical men are admitted became the subject of a government inquiry, and the number of students in attendance was reduced from forty to about thirty. The mortality, however, remained the same as before. On inquiry, it was found that, in other countries, where there were two divisions in the lying-in hospitals, one for midwives and another for medical men, the mortality was far greater in the latter. The author shows that this difference could not depend on the manipulations of male attendants being more rough than those of midwives, nor to the influence of contagion or infection. He adopts the explanation proposed by Dr. Semelweiss, the assistant physician of that division of the Vienna Lying-in Hospital in which the great mortality has occurred—namely, that the real cause of the mortality from puerperal fever there, was the “uncleanliness of medical men and students in attendance:” their hands being impregnated with cadaveric matter through dissecting, making autopsies, and performing obstetric operations on dead bodies. Dr. Semelweiss recommended all students attending his division of the lying-in hospital not to handle the

* Henle und Pfeufer's Zeitschrift, and Brit. and For. Medico-Chirurgical Review.

dead matter, or, if they did so, forbade them making any examination of the patients till the following day. And he directed every student to wash his hands in a solution of chlorine prior to and after every examination made on the living subject. The result was that the number of deaths was reduced from thirty per month to seven per month, the usual average mortality of the division for midwives only. The author makes some remarks on the modes in which the cadaveric matter may be introduced from the hand of the medical attendant into the system of the woman. He then describes the characters of the puerperal disease so fatal in the Vienna Hospital, with the view of demonstrating its resemblance to the effects of a poisoned dissection wound; and he concludes by recapitulating the inferences which he believes to be justified by the facts stated in his paper.

[In the above accusation, that medical men and students passed from the post-mortem table to the lying-in ward without washing their hands, it must be remembered that Dr. Routh is speaking of a continental hospital. That such uncleanness was not unfrequent, we can perfectly believe, for our own reminiscences of medical students in foreign hospitals is that they may be included among, personally, the very filthiest of civilized humanity.]

§ IV.—Diseases of Children.

31. *On the Excito-motory Origin of the Attitudes of the Fœtus in Utero.*—Various opinions have been adduced in explanation of the usual position of the fœtus at birth with its head downwards; but, at the present time, two are chiefly entertained: first, that it is the result of gravitation; second, that it is dependent on a vital voluntary act on the part of the child itself. Dr. Simpson has endeavoured to show that neither of these views is tenable; but that the natural position is due to involuntary excito-motory movements of the fœtus. He commences a long essay on this topic by discussing the first of the opinions referred to: to which he brings forward the following objections:—

1st. The doctrine of gravitation presupposes that the mother's body is in an upright position; but, during sleep and rest (that is, more than half the period of gestation), her body is placed horizontally, and ought to afford more chances than are shown by statistics, of the head falling into other than the normal position—in the cavity of the cervix.

2d. The doctrine further supposes the child to be suspended in utero by the cord; but this is not the fact, at least in the latter months, when the child takes the position alluded to. In order to suspend the fœtus, the placenta should in all cases be implanted into the fundus, which is known not to be the case. The cord also should be shorter than it is known to be.

3d. If gravitation were the cause, the position ought, *à fortiori*, to be found with more certainty and frequency in hydrocephalic children, with heads beyond the average weight. But Dr. Keith has shown that, in such cases, pre-natural presentations are even more frequent than in normal cases; and, on the other hand, anencephalic infants are often found to present naturally.

4th. When a child dies in utero, it is still subjected to the laws of gravitation; the dead infant ought, therefore, to present the head as often as the living. Such, however, is not the case, as is proved by the fact that, in 15,534 children born alive, the pre-natural presentations were as 1 : 57, while in 527 putrid children, they were as 1 : 5.

Dr. Simpson anticipates the objection which might be made in regard to the putrid children, viz., that, as some were premature, the non-cephalic presentations might be due to that cause, and not to their death simply, by referring to data afforded by Professor Dubois, who found 83 per cent. of cephalic presentations among living children, but only 45 per cent. among dead children of the same term. Dr. Simpson, therefore, determines that the fœtal position is not due to mechanical, but to vital agency.

But the vital cause being allowed, the further question arises as to the nature of the vital action. Is it voluntary? This is the next question replied to.

The question turns upon the fact of the possession by the fœtus of psychical

endowment, on which point there was a difference of opinion among the ancients. Ambrose Paré, Cabanis, &c., are shown to have believed that the fœtus had a mental existence, and was capable of feeling wants, as well as of exercising volition. The same opinion was also maintained by Dubois, with whom the author agrees as to the extent and variety of the foetal movements, and in the result of these movements being conducive to cephalic presentation. The point at which they diverge is the character of these movements; Dubois considering them to be voluntary, Dr. Simpson, that they are excito-motory. That they are of the latter character, he then proceeds to argue, by showing that they correspond with other movements of undoubted excito-motory origin: 1st, in the anatomical conditions under which they are performed; 2d, in the origin and character of the movements; 3d, in the physiological object with which they are accomplished. The correspondence the author subsequently shows more in detail.*

32. *Hemorrhage from the Umbilicus*.—An instance in which several male children of the same mother died of hemorrhage, after the separation of the funis, has been placed on record by Mr. Ray. It is remarkable that the female children escaped. In one of the fatal cases which he examined after death, a sort of aneurismal dilatation of the umbilical arteries had occurred, which appeared to prevent their closure, as in the normal state.†

33. *The Cerebral Diseases of Infancy*.—This important class of maladies has been made the object of two monographs, one by Mr. Dendy, the other by Dr. Valentine Duke.

— Mr. Dendy commences his essay with introductory remarks on the intra-uterine life of the fœtus, in the course of which, he expresses his belief in the opinion that the development of the embryo may be greatly influenced by the mental emotions or imagination of the mother. He then passes on to consider the diseases which may originate in injury received during labour, after which he arrives at the subject of the cerebral diseases which arise after birth. Of these he has in the present essay touched upon only two—viz., erethism and encephalitis. We should mention that he has also included laryngismus stridulus; not, as it appears, from any agreement with those pathologists who regard it as cerebral in its origin, but from its tendency to lapse into congestive or inflammatory disease of the brain, when long continued and frequently repeated. The symptoms of erethism and of acute encephalitis, in its stages of exalted and depressed sensibility, are minutely described; but not only are there no observations which can be considered original, but the author does not appear to have availed himself of the vast fund of information on the subject of infantine disease which, during the last few years, has been opened up, especially by the industry and energy of French writers. Mr. Dendy's treatise is just such an one as might have been written and esteemed twenty years ago, but is decidedly not *au courant* with the knowledge of the present day.‡

— Dr. Duke's essay, which gained the prize of the Provincial Association, is one of more extent and pretension, but is still far from being a comprehensive treatise on the cerebral diseases of infancy. Many of these, and some important ones, as, for instance, meningeal apoplexy, a most interesting affection, and one of more frequent occurrence than is suspected, and often treated for acute hydrocephalus, are entirely omitted; others, as the "hydrecephaloid" affection, and "convulsions," are treated with most unmerited brevity. Acute hydrocephalus is, in fact, the only disease which meets with due consideration. We shall not follow the author further in his essay, because it is a simple compilation, and does not profess to contain the results of original experience and investigation. We may state, however, that, as a *résumé* of the present state of knowledge on the subject, it is, as far as it goes, worthy of the perusal of our readers.§

* Edinburgh Monthly Journal, March, April.

† Medical Gazette.

‡ On the Cerebral Diseases of Children, with reference to their Early Symptoms and Treatment. Journal of Psychological Medicine, No. 3, 1848.

§ Essay on the Cerebral Affections of Infancy and Childhood, &c. Transactions of the Provincial Medical and Surgical Association, vol. xvi. Part I.

34. *Laryngismus Stridulus*.—The disease which goes under this name has been chosen as the subject of a truly valuable treatise by Dr. Reid. Laryngismus is described by him as occurring, under four forms. In the first, the spasm of the glottis is slight, so that the rima is only diminished, and not closed. The effect of this is to produce a slight catching of the breath, accompanied by the noise familiarly known as "crowing." There is no general spasm, and the complaint is but little regarded, from its comparative mildness.

In the second form, the area of the glottis is further diminished, and, in consequence, the interruption to the breathing is more serious and prolonged, and the general symptoms of lividity or pallor of the countenance, &c., more alarming. There is also frequently a convulsive action of the flexors of the extremities, causing a bending inwards of the thumb and great toes.

The third form is still more formidable, as, to the local laryngeal spasm, there are superadded general or cerebral convulsions.

The fourth form is that in which the spasm of the glottis is sudden and complete, and the infant perishes at once from asphyxia.

Dr. Reid passes on from the description of these forms to the consideration of the predisposing causes; among which, the most prominent are age and natural habit or constitution. As to age, the period of dentition is that most amenable to the disease. Dr. Reid, however, admits that it may occur at a period prior to the eruption of the teeth, and mentions a case in which it occurred as early as two days after birth.

Constitutional peculiarity also appears as a powerful predisposing cause of the disease. Dr. H. Davis has seen it attack four children in the same family. The scrofulous habit is thought by many to be favourable to its development, but this Dr. Reid considers as doubtful.

The author enters fully into the causes of laryngismus. The immediate cause is closure of the glottis; but the remote cause is still a matter of dispute. Dr. Clarke, as is well known, considered it as of cerebral origin; Dr. Ley as depending on irritation of the pneumogastric nerves by enlarged bronchial glands. Others, as Kopp and Hirsch, and Mr. Hood, of Kilmarnock, regard enlargement of the thymus gland as the cause. These theories are discussed by Dr. Reid *seriatim*, and their fallacy is exhibited by arguments drawn from physiology and the results of treatment. He then propounds his own views of the pathology of the disease, which may be briefly expressed in the following propositions:—

"1st. That, for the occurrence of the complaint, the cerebro-spinal system is required to be in a peculiarly excitable state, which thus acts as a predisposing cause. The period of teething is the most likely one to produce this condition.

"2d. That, during this irritable state of the nervous centres, the two most frequent causes are the *improper description of food* administered to the infant, and the *impure* and irritating atmosphere which it breathes."

By improper food, the author does not mean artificial food only, but also deteriorated states of the maternal milk; the latter, however, is comparatively seldom the source of the disease. The great source is, comparatively, the use of artificial diet, as it is not to be doubted that the disease seldom appears in an unweaned infant. Dr. Reid has only met with two instances of the kind in a large experience.

After entering more into detail respecting the ill effects of rearing by hand, the author proceeds, in the next place, to the diagnosis of laryngismus, distinguishing it from croup, whooping-cough, and hydrocephalus, the diseases with which it is most likely to be confounded.

The important subject of treatment next comes under consideration. This Dr. Reid speaks of under the natural division of that required during the paroxysm, and during the interval.

In the paroxysms, he recommends the warm bath, stimulating enemata, cold douches to the face and chest, and, if necessary, artificial respiration. He discusses the question of tracheotomy, but without adducing any arguments in its favour. He also suggests that ether inhalations may be resorted to. [Of the benefit of this, we have recorded a marked instance which came under our own knowledge, in a case of more than ordinary severity (see Abstract, Vol. V.

p. 341). The case was at the time under the care of Mr. Image, of Bury St. Edmunds, who had given its particulars.]

In reference to the treatment during the interval, the author alludes first to lancing the gums. His observations on this head are judicious, and most worthy of attention. Bloodletting is considered as generally unnecessary, and in all cases requiring great caution; in this, we entirely concur. Regarding intestinal irritation as the predominant exciting cause, purgatives may be supposed to take an important place in the author's code of treatment. Of anti-spasmodics, he also speaks in terms of commendation. His favourite formula is

Sp. ammon. foetid. ℥ss;
Tinct. hyoscyami ℥x;
Syrup. aurant. ℥ss;
Sp. aini 3j;
Acid. hydrocyan. dilut. ℥v;
Aquæ 3j.

Sumat coch. minimum unum ter in die.

Tonics are required as auxiliaries. Of these, the author prefers the vin. ferri.

But the most important part of the treatment of these cases is indisputably that which has reference to the diet and general hygienic management of the infant. On this point, the author's remarks are particularly worthy of perusal. As a matter of course, artificial food is repudiated, and a wet-nurse is enjoined when the mother is incapacitated from suckling. There are, however, many cases in which the providing a wet-nurse is a matter of impossibility, and in such cases it becomes imperative to bring up the infant by hand. Dr. Reid furnishes rules and precautions on this point, which may be advantageously referred to both by physicians and mothers.

Change of air is recommended as an essential adjuvant in the cure.

—A paper on the subject of laryngismus infantum has recently been published by Mr. Robertson, of Manchester. The remarks on treatment are judicious, and in all main points are in accordance with those expressed by Dr. Reid.

35. *Enlargement of the Liver and Spleen in Children.*—Dr. Battersby has described several cases of enlargement of the abdomen in children depending upon disease of the liver and the spleen; a form of disease which, he states, has been overlooked by systematic writers on the diseases of infancy. The disease in the liver appears, in some instances, to have been acute hepatitis; in others, hypertrophy of the organ. Both the hepatic and splenic disease he regards as produced in most cases by protracted lactation.*

36. *Contusion of the Scrotum in Breech-presentations.*—M. Van Hoeslorbeck calls attention to contusion and consequent gangrene of the scrotum as a not unfrequent event in breech-presentations. Having met with three cases in which the child died from sloughing of the parts, he has since always adopted the precaution of pushing the scrotum up above the union of the thighs, and preventing its descent by mechanical means.†

* Dublin Quarterly Journal.

† Revue Médico-Chirurgicale, Sept. 1848.

IV.

REPORT ON THE PROGRESS OF ANATOMY AND PHYSIOLOGY.

THE British contributions to physiological science, in the shape of distinct treatises, which have appeared since the date of our last Report, are not numerous, and, with one or two exceptions, not important. The works for which we claim this exception are the "Handbook of Physiology," by Dr. Kirkes, and the "Supplement to Müller's Physiology," by the same author and Dr. Baly conjointly.

—The "Handbook of Physiology" was originally intended simply as a condensed abstract of the more comprehensive "Elements of Physiology" by Müller, and therefore mainly consists of extracts from the more important portions of that work. But, in the progress of the undertaking, it was found that many of the theories and views propounded in the "Elements" have been either controverted, or so far modified by later discoveries and experiments, that, on some subjects, the present volume was required to contain strictly original matter. For this part of his labours, as well as for the task of condensation, Dr. Kirkes has already shown himself competent, by his excellent Reports on Anatomy and Physiology, which have from time to time appeared in this Journal. We take pleasure, while expressing our regret at the termination of his literary co-operation with us, in observing that his time in the interim has been employed in a manner at once conducive to his own reputation, and the convenience and enlightenment of the numerous class of students who will doubtless make the "Handbook of Physiology" their chief book of reference.*

—The "Supplement to Müller's Physiology" includes the more recent advances in the physiology of motion, the senses, generation, and development. Much of the matter has already been given in our former Reports.†

—Mr. Smee has published a volume entitled "Electro-Biology, or the Voltaic Mechanism of Man," the object of which is to show the importance of voltaic or electric agency in the various functions of the body, both healthy and disturbed. The work is written in a style which forbids analysis, and we are therefore constrained to refer our reader to the text, in which they will find not a little that is both original and ingenious, as well as somewhat that is unintelligible. That electricity, or its congeners, has more to do with vital manifestations than we wot of may, perhaps, be conceded, but we are not disposed with the author to look upon ourselves as little else than mere electric machines.‡

—Another view of muscular action and other bodily functions is adopted by Mr. Wigglesworth—namely, that they depend upon the law of gravity. For the arguments by which he supports this extraordinary notion, we must, as in the preceding case, refer to the original.§

* Handbook of Physiology. By Dr. Senhouse Kirkes.

† The Recent Advances in the Physiology of Motion, the Senses, Generation, and Development. By Dr. Baly and Dr. Kirkes.

‡ Electro-Biology, or the Voltaic Mechanism of Man. By Alfred Smee, F.R.S.

§ The Dependence of Animal Motion on the Laws of Gravity. By H. Wigglesworth, M.D.

§ I.—*General Anatomy and Physiology of Tissues.*

1. *On the Nature of Limbs.*—Mr. Owen has recently given a lecture with the object of showing the unity of type which pervades animal structures. He here illustrates this unity, by reference to the general and serial homologies of the locomotive extremities in the vertebrated classes of animals. However dissimilar in outward form and use these extremities may be, yet the anatomist can trace through the whole series a unity of type. The strong, stiff, short, flat paddle of the dugong can find its homologue in the thin, expanded sheet of membrane which forms the wing of the bat, and this again in the trowel of the mole. The doctrine of final causes would not lead us to anticipate such uniformity. By this doctrine, we cannot account for the multiplicity of parts which anatomy reveals in the stiff paddle of the whale, which plays as one piece on the trunk to which it is attached. "There is," says Mr. Owen, "a deep and pregnant principle concerned in the issue of these dissections." Mr. Owen proceeds to point out the homologous parts of limbs in various classes of vertebrata; when the bone of the horse's arm is compared with that of man, the same type is found to govern the formation of both; there is a diminution of accessory parts in the former, but the essentials are the same. There is a simplification of structure, but not in ratio with the loss of function; the carpal series of bones, again, answer exactly in each. The hand of the horse, though apparently reduced to a single digit, shows the rudiments of two others—viz., the splint bones; and even the very bones in the human hand, to which these correspond, may be pointed out. "To skim the air and to burrow in the earth, would seem to require instruments as different in combination as in size and shape; but observe how closely the skeleton of the mole's trowel conforms, in the number and relation of its parts, to that of the bat's wings. The chief change is this: whatever is elongated and attenuated in the bat, is shortened and thickened in the mole; then, again, in the undivided sheath of the fin of the whale, who would expect to find the full number of joints and segments? Yet these bones offer perhaps the most striking instance of an adherence to type, notwithstanding the absence of all those movements, &c., which explain the presence of these several segments in the horse and man, on the principle of final causes. On extending our researches further, we find within what narrow limits of the vertebrate series the type of the anterior member, as seen in man, ceases to be recognizable, and then not by a change, but by a gradual fading away of the pattern; as the limb rapidly disappears at the extreme of the series, we first find one segment abrogated, then the digital rays fall short, then the scapular arch alone remains, and lastly, as in serpents, all trace of arch and appendage has vanished. It is from the study of these transitions, that we gain the deepest and truest insight into their essential nature. But there is a still further uniformity of type, manifested not only in the bilateral symmetry of the body, but also in a similarity between the anterior and posterior extremities; their general resemblance is evident enough; when examined in detail, the ilium is found to repeat the scapula; the broad, perforated plates below correspond, generally, with the clavicles; the femur answers to the humerus, and so on. Again, we find, in certain mammals, the pelvic arch subject to the same variety, by defect, as the scapular arch: thus, in the bat, the pelvic arch remains open, while the scapular is closed, and so presents a reversed condition to these arches in the horse, and the cause is obvious: in the bat, the fore-limbs are the locomotive agents, the hind-limbs merely supporting members; in the mole, the fore- and hind-limbs differ in proportion, but not in their composition. The skeleton of the plesiosaurus shows this unity of type between the fore- and hind-limbs closely preserved, and it is the more striking, as here the conformity is not broken by the opposite flexures, as in the fore- and hind-limbs of terrestrial mammals."

Vicq-d'Azyr first called attention to these serial correspondences; Mr. Owen points out some errors he fell into in his interpretation of them, and then adduces instances to illustrate the true character of the carpal and tarsal bones, which human anatomy alone could never have revealed. By this analysis, we

can even point out the very finger in the hand of man which answers to the fore-foot of the horse, and the toe that corresponds to its hind-foot. "Were anything," says Mr. Owen, "wanting to impress the mind with the conviction of the unity of type which pervades animal structures, it might be such a fact as this." A perfect parallelism reigns in the order in which the toes successively disappear in the hind-foot, and this is beautifully illustrated in detail by Mr. Owen. It is interesting to perceive, both in the human hand and foot, that the digits which have been most modified, either by excess or defect of development, are precisely those that are the least constant in the mammalian series—viz., the two which form the extremes of the series; whilst the three intermediate digits are more conformably developed. In the hand, the dig. med., the most constant of all, still shows superiority in size, though few would thereby be led to suspect that the bones forming the three joints of this finger answer to the great pastern-bone, the little pastern-bone, and the coffin-bone of the horse, and that its nail represents its hoof.

Mr. Owen next inquires: What is the archetype, the essential nature of limbs?—and his investigations lead him to conclude that arms and legs are developments of costal appendages, not liberated ribs, as Oken supposed. A rigorous investigation of their modified forms, as they exist among the different vertebrata, necessarily leads to such a conclusion. A vertebra is a natural group of bones, a primary segment of the endo-skeleton, and its parts are recognizable under all their teleological modifications. Mr. Owen enters into a minute comparative survey of these parts, and he observes that he only who has been exclusively occupied in human anatomy will have any difficulty in admitting the conclusions at which he has arrived—viz., that limbs are developments of costal appendages, that the scapular arch has been detached from its centrum, and that this centrum is to be found in the occipital vertebra.*

2. *Muscles, Irritability of.*—Dr. Stannius answers objections made by Bischoff and Valentin to his assertion that muscular irritability is independent of the nerves. He divided the nerves of a frog's leg, and so as to prevent regeneration of their substance; the animal was kept alive for many weeks, and he found that the divided nerves gradually lost their influence over the muscles; and also that, when muscular contraction could no longer be produced by irritation of the nerves, the muscles could still be made to contract by the direct application of galvanism, and the microscope could detect no structural change in their primitive fibres. The cut nerves lose their influence over the muscles, in a centrifugal sense, first their trunks, and then their branches; and, in such cases, their structure appears changed, the trunks become of a darkish-yellow colour, the neurilemma loses its shining, striped appearance; single branches become soft, easily torn, and separated into primitive fibrillæ; coagulation of the contents of the fibrillæ is the first change visible after the loss of the nerve's irritability, and appears a sure sign of loss of vitality in the nerves. Dr. Stannius admits that the question does not yet seem definitely answered, for the possibility exists that the primitive nerve-fibre, in contact with the muscular fibre, may still preserve its energy, though this much appears certain, that the nerves lose their influence very slowly, and in a centrifugal direction.†

3. *On the Arrangement of the Areolar Sheath of Muscular Fasciculi, and its relation to the Tendon.*—It is well known that the fasciculi of fibres of the muscles are surrounded by sheaths of areolar tissue, but the arrangement of the filaments of fibrous tissue forming the sheaths, and their relation with the tendon, have not been properly pointed out. From repeated observation, Dr. Leidy, who has investigated the point, has found that the filaments of fibrous tissue cross each other diagonally around the muscular fasciculi, forming a doubly spiral extensible sheath. None of the filaments run in the direction of the length of the fasciculi, and but few are transverse. Many of the filaments of a sheath form an interlacement in the same diagonal manner, with the filament of the sheaths of neighbouring fasciculi. This arrangement is readily

* Mr. Owen, on the Nature of Limbs, a Discourse delivered, on Feb. 9, 1849, at the Royal Institution.

† Müller's Archiv., p. 440, 1847.

distinguished, if several fasciculi be drawn slightly from each other upon a plate of glass, and the intervening areolar tissue be viewed beneath the microscope. When the filaments reach the rounded extremities of the fasciculi, they become straight, and in this manner conjoin with the tendinous filaments originating at the extremities of the muscular fibres. The importance of this arrangement can be readily understood, from the diagonally crossing course of the areolar filaments; comparatively inelastic in themselves, the sheath is rendered elastic, thus permitting the muscular fibres freely to move, without their action being interfered with; while, at the point of attachment of the fasciculi, where any elasticity would be worse than useless, from the fact that part of the muscular action would be lost in the mere extension of an elastic substance, we find the filaments arrange themselves so as to become part of the inextensible tendon.

4. *On the Minute Structure and Mode of Contraction of Muscular Fibre.*—Mr. Dobie has recently presented a paper to the Edinburgh Royal Medical Society on this subject. After reviewing the opinions of the principal microscopic anatomists of earlier, and more recent date, among whom are Lewenhoeck, Malpighi, Muys, Prochaska, Bauer, Home, Martin, Barry, and Bowman, he adverts to his own views, deduced from numerous demonstrations of recent muscular fibre. Without following the author through his entire description, we may give the following summary of his observations:—

1st. That (excluding the sarcolemma) an ultimate fibre of voluntary muscle is composed of two kinds of sarcous matter, arranged in a definite way, having a tendency to split up into fibrillæ or discs. These fibrillæ have dark and light spaces.

2d. That the dark sarcal element or space has some peculiarity in its molecular arrangement, differing from the clear sarcal element or space which causes it to refract light in a different way. But we are not entitled to say that it is composed of cells, containing a fluid of greater density than is contained in the contiguous clear space; in fact, we are not able to say, with any degree of certainty, that any portion of a muscular fibril, in the mature state, is a cell containing fluid, as Mr. Erasmus Wilson believes.

3d. That the clear space can be distinctly seen to have a dark line crossing it transversely, and dividing it into two equal parts; and that the dark space also presents a similar division, caused by a line which is generally seen of a lighter shade than the other parts of the same space, and not a broad black band, as is erroneously represented by Mr. Erasmus Wilson.

4th. That no clear area exists at the edge of the fibrillæ extending transversely outwards from the dark spaces, giving the fibrillæ the appearance of a chain of nucleated cells, as is represented by Dr. Sharpey and Dr. Carpenter. To this conclusion, I have been irresistibly led by the following considerations:—

a. The fact that, when two fibrillæ lie side by side, the edges of the black spaces are in accurate apposition.

b. That, if this lateral clear area really existed, the fibre would be spotted, or at least marked with longitudinal striæ quite as distinct as the transverse ones, which in this case would not be well marked.

c. That the edges of the clear space can be seen, under a fine instrument, not to extend farther laterally than the edges of the dark space.

d. That the cross line in the clear space measures exactly the same as the breadth of the dark space, and that it can be distinctly seen in favourable cases to touch the edges of the clear space.

5th. That it seems probable that there exists a homogeneous connecting medium among the fibrillæ.

6th. That the structure of cross-striated muscular fibre is essentially the same in all the members of the animal kingdom.

7th. That, from all I have seen of the structure of voluntary muscle, I am perfectly certain that the appearances presented are quite inconsistent with any palpable spiral arrangement, either in the fibre or fibrillæ, as is still the opinion of Dr. Martin Barry. Mr. Bowman's observations ought to have set this point at rest.

8th. That the dark spaces become clear, and clear spaces dark, during a

change in the focus of the instrument, causing a peculiar appearance of movement on the fibrillæ.

9th. That the clear spaces are generally narrower in the fish and lobster than in the frog and mammalia.

10th. That the fibrillæ are somewhat flattened bands.

11th. That the dark spaces in some cases appear as if slightly elevated above the clear spaces of a fibril.

Respecting the transverse striæ, the author observes, in reference to the change of appearance induced by change of focus:—

“The muscular fibrils being composed of a series of clear and dark particles, which, under change of focus, alter from dark to clear, and from clear to dark, this change also takes place under the same circumstances in the complete fibre, so that the dark, transverse striæ are at one time formed by the lateral coaptation of the dark spaces, at another time by a like coaptation of the clear spaces.

“I see no other way of rationally explaining this peculiar appearance of movement on the surface of the fibre during alterations of focus, and I believe that Mr. Erasmus Wilson is wrong in stating that the dark, transverse striæ are always formed by the lateral union of the *light* spaces.

“This appearance of movement cannot be caused by dark spaces of fibrillæ lying immediately below the *clear* spaces of a set of fibres which are *superficial* to them. As the movement can be seen in a perfectly fresh and undisturbed fibre, it can also be seen on the individual fibrillæ, as I have already stated.”*

5. *Use of the Omo-hyoid Muscle.*—The use generally assigned to the omo-hyoidei muscles is, depressing the larynx after its elevation in the act of swallowing; but the larynx, Mr. Skey says, would return to its position by its own elasticity, and therefore no muscular power is here required. He gives them another office, viz., producing imbibition by suction; they act by drawing the whole larynx forcibly downwards, the larynx rising again after cessation of their action. That they are the chief muscles employed in drinking, may be inferred from their absence in all animals that drink by *lapping*, and by their invariable presence in all animals that drink by *suction*. The objection which may be made, that the young of lapping animals live by suction, Mr. Skey answers by saying that the act of sucking in these animals is effected solely by the tongue itself, closely applied round the nipple. His views are supported, also, by the anatomy of the descendens noni nerves. In animals that do not possess these muscles, the descendens noni nerves are formed chiefly by the cervical nerves; while, in those that drink by suction, they are almost entirely composed by the hypoglossal nerves.†

6. *On the Non-vascularity and peculiar Organization of certain Animal Tissues, especially of the Eye and Joints.*—A paper, of which we give a condensed abstract, has been contributed by Mr. Toynbee. In the introduction to this paper, the author first speaks of the process of nutrition in those animal tissues which are pervaded by the ramifications of bloodvessels, pointing out the circumstance that, even in them, there is a considerable extent of tissue which is nourished without being in contact with vessels. The knowledge of this fact leads to the study of the mode of nutrition in those tissues which contain no bloodvessels; these are divided into the three following classes, viz.:—

The *first* comprehends articular cartilage, and the cartilage of the different classes of fibro-cartilage.

The *second* comprises the cornea, the crystalline lens, and the vitreous humour.

The *third* class includes the epidermoid appendages, viz., the epithelium, the epidermis, nails and claws, hoofs, hair and bristles, feathers, horn, and teeth.

The author then proceeds to show that the due action of the organs, into the composition of which these tissues enter, is incompatible with their vascularity. In proof of the non-existence of bloodvessels in these tissues, he states that he has demonstrated, by means of injections, that the arteries, which previous anatomists had supposed to penetrate into their substance, either as serous

* Annals of Natural History, Feb. 1849.

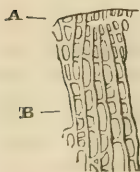
† Medical Gazette, July 7, 1849.

vessels or as red bloodvessels too minute for injection, actually terminate in veins before reaching them; he also shows that around these non-vascular tissues there are numerous vascular convolutions, large dilatations, and intricate plexuses of bloodvessels, the object of which he believes to be to arrest the progress of the blood, and to allow a large quantity of it to circulate slowly around these tissues, so that its nutrient liquor may penetrate into and be diffused through them. The author states that all the non-vascular tissues have an analogous structure, and that they are composed of corpuscles, to which he is induced to ascribe the performance of the very important functions in the process of their nutrition, of circulating throughout, and perhaps of changing the nature of the nutrient fluid which is brought by bloodvessels to their circumference. The author then brings forward facts in proof of the active and vital properties of these corpuscles, and concludes his introduction by stating that it appears to him that the only difference in the mode of nutrition of the tissues which contain bloodvessels and those which do not, is that, in the *former*, the fluid which nourishes them is derived from the blood that circulates throughout the capillaries contained in their substance; whilst, in the *latter*, the nutrient fluid exudes into them from the large and dilated vessels that are distributed around them; and that, in both classes, the particles of which the tissues are composed derive from this fluid the elements which nourish them.

The author then enters on an examination of the structure and mode of nutrition of the several tissues of each of these three classes.

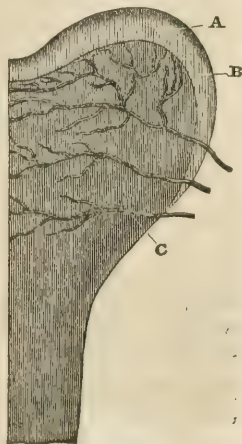
Of the joints.—In considering the first class, the development of articular cartilage is described at great length during its various stages, and at the different periods of life. Numerous dissections of the ovum and fœtus are given in detail to illustrate the *first stage*, during which, it is shown that no vessels enter into the substance of any of the textures composing a joint, but that the changes they undergo are effected by the nutrient fluid from the large bloodvessels, by which each articulation is surrounded. In the *second stage* of the development of articular cartilage, it is shown that the epiphysal cartilage is gradually hollowed into canals, within which bloodvessels are extended, which converge towards the attached surface of the articular cartilage: in this stage, vessels are also prolonged over a considerable portion of the free surface of the cartilage between it and the synovial membrane.

A vertical section of the Inferior Extremity of the Os Femoris, highly magnified.



- A. The impervious layer of bone (articular lamella) to which the cartilage is attached, separating the latter from the cancelli.
- B. The firm vertical fibres of the cancelli implanted into the upper surface of the articular lamella.

A section of part of the Inferior Extremity of the Os Femoris, forming part of the Knee-joint, showing the relation of the Bloodvessels of a Bone to the Articular Cartilage covering it.

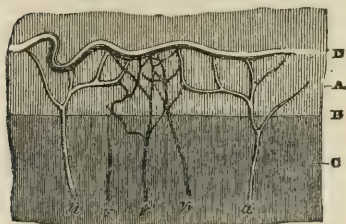


- A. The articular cartilage.
- B. The articular lamella.
- C. The bloodvessels of the cancelli.

In the *third stage*, that which is exhibited in adult life, the epiphysal cartilage is converted into osseous cancelli. These contain large and very numerous bloodvessels, ramifying throughout the whole of their cavity, and are separated from the articular cartilage by a very fine but complete lamina of bone, the articular lamella, which is composed of corpuscles; and the author believes that the principal source of nutrition to the articular cartilage is the nutrient fluid eliminated by the large vessels of the cancelli, and which permeates the articular lamella. The free surface of adult articular cartilage is nourished by vessels which extend to a short distance over its margin, and between it and the synovial membrane.*

It is quite certain that the vessels thus situated do not enter the substance of the articular cartilage, inasmuch as the arteries terminate in veins at the circumference of the latter. In this situation, the arteries become continuous with the veins in the following ways: First, by their all ending in a single vessel similar to the terminal sinus in the vascular area of the chick, from which the veins arise; second, the arteries terminate in dilated cavities, which give origin to veins; and, lastly, the two sets of vessels are directly continuous by means of loops of various characters. The apparent object of all these modifications is to cause a considerable quantity of blood to circulate slowly in the vicinity of articular cartilage.

Vessels situated between the Synovial Membrane and the border of the Articular Cartilage of the Condyle of the Os Femoris at the Period of Birth.



- A. The articular cartilage.
- B. Its margin.
- C. The synovial membrane.
- D. The single vessel in which the arteries terminate.
- a. Artery.
- v. Vein.

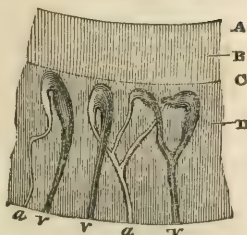
The author points out the presence of fine tubes which pervade the attached portion of articular cartilage: to these he ascribes the functions of transmitting through its substance the nutritive fluid derived from the vessels of the cancelli, and he also shows that articular cartilage becomes thinner as man advances in life, and that this change is effected by its gradual conversion into bone, a process which is always going on.

Fibro-cartilages constitute the second tissue of the first class: they are divided by the author into two classes: one comprising those which are not covered by a synovial membrane; the other includes those which have each surface lined by it. The structure of fibro-cartilage is carefully investigated, and, in order to arrive at some definite conclusions on this subject, whereon anatomists of all ages have so much differed, he made numerous dissections of fibro-cartilages in the different classes of animals at various periods of their development, the results of which he details. He shows that this tissue is composed of cartilaginous corpuscles and of fibres; the latter preponderating in adult life, the former in infancy; and that, during life, the corpuscles are gradually converted into fibres. He enters at length into the question of the vascularity of these cartilages; and, from a careful study of many injected specimens of man and animals at various periods of their development, the particular results of which he relates, he states that bloodvessels are contained only in their fibrous portion; these have the function of nourishing the part that is cartilaginous, which, being subject to compression and concussion, does not contain any.

* It is very probable that synovia, a highly animalized fluid, has some share in the nutrition of articular cartilages, especially as it appears that false cartilages of joints, without having any attachment to the synovial membrane, are developed, and grow floating in it.

A portion of the Internal Semilunar Fibro-cartilage of the Knee-joint.

- A. The free internal border of the fibro-cartilage.
 B. The true cartilage.
 C. The line of separation between the cartilage and the fibro-cartilage.
 D. The fibro cartilaginous portion.
 a. The artery.
 v. The vein.



The eye.—The cornea, crystalline lens, and vitreous humour, each forming a part of the eyeball, are included in the second class of extra-vascular tissue.

1st. The structure of the *cornea* is described as being very lax, and containing corpuseles only in a small quantity, mixed with bright fibres. The opinions in favor of its vascularity are combated, and it is shown that the bloodvessels which converge towards its circumference are disposed in two different ways.

*Represents the Vessels (Sclerotic-corneal) situated in the substance of the Sclerotic Membrane, which approach the border of the Cornea.**

- A. The cornea.
 B. The line of separation between the cornea and the sclerotic.
 C. The sclerotic.
 a. Artery.
 v. Vein.



Those which are the principal source of the fluid that nourishes it, and which, from their position, may be styled the sclerotic-corneal arteries, are large and numerous; they are situated in the substance of the sclerotic, and they converge to the point where this latter structure joins the cornea, in which position, without much diminution in their size, they suddenly become contiguous with the veins that take a retrograde course. (See figure.)

A second set, the conjunctivo-corneal arteries, pass over a small extent of the surface of the cornea, where they form a narrow band: the arteries terminate by forming loops with the veins, and do not penetrate the substance of the cornea.

Represents the Vessels (Conjunctivo-corneal) which pass to a certain extent over the surface of the Cornea, between it and the Conjunctiva.

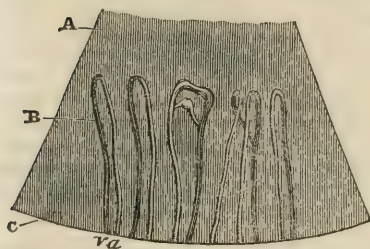
- A. The cornea.
 B. The conjunctivo-corneal vessels.
 C. The sclerotic.
 a. Artery.
 v. Vein.



* These are the vessels that become so much enlarged in certain diseases of the eye.

2d. The *crystalline lens* is described as being composed of corpuscles, of which the radiating fibres are constituted. The *arteria centralis retinæ* is the source of nutrition to this organ; it ramifies over the posterior surface of the capsule in the form of large branches; these pass around the circumference, upon the periphery of which they become straight, and terminate by forming loops with the venous radicles.

Represents the mode in which the Bloodvessels are distributed that nourish the Crystalline Lens. Human Fetus.



- A. The anterior surface of the lens.
- B. Terminal branches of the arteria centralis retinæ.
- C. The circumference of the lens.
- a. Artery.
- v. Vein.

3d. The *vitreous humour* does not present any traces of vascularity, and, although many anatomists have in general terms represented the *arteria centralis retinæ* as giving off, in its course through the organ, minute branches into its substance, still, those who have paid especial attention to this subject have not been able to find such vessels. The author believes that the nutrition of this structure is accomplished by the vascular ciliary processes of the choroid, and that the fluid brought by the latter is diffused through its substance by means of the corpuscles of which its membrane is composed, assisted by the semi-fluid character of the humour.

Of the skin, &c.—The third class of extra-vascular tissues comprehends the epidermoid appendages. The author describes them all as composed of corpuscles, which are round and soft where they are in contact with the vascular chorion, compressed and flattened where they are farther removed from it. He points out, in the substance of the hoof of the horse, the existence of fine canals, which he supposes to conduct fluid through its mass; and he states that the perspiratory ducts of the human subject possess a structure analogous to the spiral vessels of plants. The author describes each of the tissues of this class, and shows that the various modifications presented by the vascular system with which each is in contact have the sole object of enabling a large quantity of blood to approach and circulate slowly around them. He also points out, in connection with this subject, the remarkable vital properties which are possessed by these non-vascular tissues.

The conclusions to which the author of this paper arrives are the following:—

1st. The articular cartilage of joints in a healthy state contains no bloodvessels, and that it is nourished by the vessels which surround it; in certain diseases of the joints, these vessels are prolonged into the substance of articular cartilage.

2d. The fibro-cartilages of the joints and of the spine, when healthy, contain bloodvessels only at their circumference; in disease, they become vascular.

3d. That the following structures of the eye, viz., the cornea, the crystalline lens, and the vitreous humour, possess no bloodvessels in a healthy state; in some diseases of the eye, the cornea becomes vascular.

4th. The epidermis of the skin, teeth, nails, feathers, and the hoofs of animals have no bloodvessels. The hoof of the horse is pervaded by numerous fine canals, which circulate a fluid throughout the whole of the substance, and give to it the elasticity so essential to the due performance of its functions.

The author states that his object has been to establish as a law, in animal physiology, *that organs are capable of being nourished, and of increasing in size, without the presence of bloodvessels in their substance.*

The application of the above-named law to the study of *surgery*, in reference to the causes of the extension of vessels into the extra-vascular tissues of the eye and the joints, when in a diseased state, and to the measures to be adopted for the prevention and cure of those affections which are dependent thereon, and to *pathology*, in the investigation of the nature of morbid structures, particularly of those classes which contain no bloodvessels, will, the author feels certain, be productive of scientific interest and of practical advantage.*

7. *Structure of the Synovial Membrane covering the surface of Adult Articular Cartilage.*—The same observer, after alluding to the disputed point of vascularity or non-vascularity of articular cartilage, refers to the above paper, in which he endeavoured to prove that this structure should be classed among those animal tissues which are nourished, and are liable to disease, though deprived of bloodvessels. He alludes also to the difference of opinion respecting the persistence of the synovial membrane over the surface of adult articular cartilage, and inquires what has become of it, since its presence in the fœtus is readily ascertained. His investigations lead him to an opinion confirmatory of that advocated by Sir B. Brodie, that the synovial membrane invests the entire surface at all periods of life, so long as the cartilage is in a healthy state. The methods by which its presence can be demonstrated are the following: "If the synovial membrane which surrounds the border of adult articular cartilage be traced to the margin of the latter, it will be found to adhere very firmly, and, should an attempt be made to tear it from the surface of the cartilage, it will often give way; in some parts, however, and that not unfrequently, a continuation of this synovial membrane will be separated, by laceration, in the form of a thin, transparent layer, from the surface of the cartilage to the extent of several lines. Another mode of showing the presence of this delicate tissue on the surface of articular cartilage is, to make a very thin flap of the latter parallel with its surface, and then, by means of a pair of broad-pointed forceps, to draw it gently, but firmly, in the same direction as that of the section. As a general result of this process, it will be found that a layer of transparent membrane, varying from two lines to half an inch in length, will peel from the cartilage. A third way of demonstrating the existence of this membrane is to place a portion of articular cartilage under water, and to scratch its surface with the sharp point of a firm needle, till a fine membrane is observed to be lacerated, under which the needle may be introduced, and, by careful manipulation, the adhesions between it and the cartilage may be broken, and considerable portions detached." In reference to the *structure* of this membrane, Mr. Toynbee says: "When examined by a magnifying power of 500 diameters, portions which have not been subject to much pressure present the appearance of compressed areolar tissue; portions from the central part of the cartilage are translucent, and have a nearly homogeneous structure; they present, on their inner surface, numerous fine points, which appear to be particles of cellular tissue which have been lacerated in the process of separation from the cartilage; sometimes, the inner surface of this membrane presents shallow depressions, which correspond in size and shape with the corpuscles of articular cartilage over which they have been placed and against which they have been firmly compressed; not unfrequently, some cartilage-cells are seen adherent to the inner surface of the membrane." Mr. Toynbee adds: "That this membrane is not a layer of cartilage, seems evident from the fact that it contains no corpuscles; from its extreme, and yet uniform softness and tenuity, the latter being so great that the membrane folds upon itself when floating in a drop or two of water; from the facility with which it is separated from the surface of the cartilage, without using any cutting instrument; and from the circumstance that it is visibly continuous with the synovial membrane around the joint. The only fact which seems to militate against its being considered as synovial membrane, is the absence from its surface of epithelial cells. The absence of the epithelial layer may, however, be accounted for, perhaps, from the fact that it is not, like the reflex synovial membrane, a secreting organ, and from its being subjected to great pressure."

* London Journal of Medicine, March 1849.

8. *On the Development of the Purkinjean Corpuscle in Bone.*—Schwann, in his "Mikroskopische Untersuchungen," considers that the Purkinjean corpuscle of bone is derived from the pre-existing cartilage-cell, and that the canaliculi are prolongations or protrusions of the cell-wall. Many later authors, among whom are Gerber, and Todd and Bowman, express the opinion that it originates in the nucleus of the temporary cartilage-cell, and Tomes entertains the idea that, after the formation of the osseous tubes, in the process of ossification, the latter are filled up by a deposit of osseous granules, and, while this deposit is going on, small cells are left, which are the rudimentary Purkinjean corpuscles. Henle thinks them to be the cavities of cells, the thickened walls of which are pierced by the canaliculi. Hassall confirms the view of Schwann by stating: "The bone-cells (Purkinjean corpuscles) are to be regarded as complete corpuscles, the canaliculi of which are formed by the extension of the cell-wall, which is proved by watching the formation and development of bone."

The opinion of Schwann and Hassall Dr. Leidy fully corroborates from his own observations upon an ossifying frontal bone from a human embryo measuring two inches from heel to vertex. Each lateral half of the bone is about $3\frac{1}{2}$ lines in diameter, and presents to the naked eye the appearance of a delicate and close network, arising from the numerous areola occupied by temporary cartilage. The frontal and orbital plates, it is worthy of incidental remark, at this period, are nearly on a plane with each other, or are connected together at a very obtuse angle along a central, transverse, crescentic, raised line, the rudimentary supra-orbital ridge.

The mode of development of the Purkinjean corpuscle, as noticed upon the upper or posterior border of the os frontis, is briefly as follows: After the primitive ossific rete has been formed from the deposit of the osseous salts, inclosing groups of cartilage-cells in the areola, the further deposit takes place in a fibrous or line-like course from the parietes of the areola of the primitive osseous rete, in the interspaces of the cartilage-cells nearest to or in contact with the sides of the areola. At this period, the cells shoot out or extend their canaliculi between the fibrillæ just formed, and then the cell-wall and continuous walls of the canaliculi fuse with the translucent, homogeneous, or hyaline substance of the cartilage existing between the cells and the osseous fibrillæ, and with the fibrillæ themselves, by the deposit of the osseous salts. The period of the formation of the canaliculi appears to be quite definite, occurring during the deposit of the osseous salts, and not before. To such an extent is this the case, that I noticed, in several instances, cells which had formed their canaliculi upon the side which was ossified, while upon the other side I could not distinguish any trace of them.

During the whole time of the formation of the Purkinjean corpuscle, the nucleus remains unchanged; at least, no change is perceptible in it beneath the microscope; and, by applying tincture of iodine to the preparation, which turns the nucleus brown, I was able to detect it within the perfected Purkinjean corpuscle, not only corresponding to the nucleus of the remaining unossified cartilage-cells in granular structure, but also in its measurements. After the Purkinjean corpuscle has been formed a short time, the nucleus dissolves away or disappears.

The newly-formed Purkinjean corpuscle is about the same size as the remaining unossified cartilage-cells.*

§ II.—*The Blood and Circulation.*

9. *The Mechanism by which the Valves of the Heart are closed, and its sounds produced.*—Dr. Hamernjk, of Prague, confirms, in many respects, the opinions of Dr. Baumgarten on the mechanism by which the cardiac valves are closed.

The most important of these views are, that, during the systole of the auricles, there is none or very trifling regurgitation into the venous trunks. This is prevented, in his opinion, by an arrangement of circular muscular fibres surrounding the embouchure of the veins; by the propulsion of the blood towards

* Transactions of the Academy of Natural Sciences; Philadelphia, 1848.

the auriculo-ventricular opening, and by the vis-à-tergo. On the right side, there is the additional agency of a valve at the mouth of the cava, but this is operative only in the foetal state. He attaches great importance to the force of the current of blood flowing into the venous trunks, due to the alternate pressure exercised by the respiratory movements, reflux being prevented during expiration by the valves in the veins at the base of the neck; and in the vena cava inferior, he attributes a valvular action to the displacement of the liver during expiration, which diminishes the calibre of the vein at its passage through the diaphragm. Dr. Baumgarten considers the pulsatory movements, observed in the healthy state of parts in the great veins, to depend on the sudden interruption of the current of blood during the auricular systole.

That the auriculo-ventricular valves are closed by the counter-pressure of the ventricular blood, suddenly developed by the contraction of the *auricles*. That the cavities of the auricles and ventricles, during the heart's diastole, are distended by the continuous current from the veins; while at this period the valves are to be found floating in the blood, in the form of a funnel. That the object of the auricular systole is to induce such an amount of tension in the contents of the ventricles, and of course in the blood surrounding the funnel-shaped arrangement of the valves, as to cause their rapid closure; and that in this way only can regurgitation be prevented. If the heart be removed from the body, and the auricles cut away (it is better, however, to operate with one only), the artery obstructed by ligature, or by filling it with wax, and the cavity of the ventricle filled with a saline solution, the valve is found lying in the position above described. If, then, a stream of water be directed upon the valve from the height of a foot, so as to imitate the sudden contraction of the auricle, the valve is seen to close with great rapidity. If, however, an attempt be made to imitate the ventricular systole, by squeezing the ventricle with the hand, a large portion of its contents regurgitates before closure is effected.

That the closure is not due to the operation of the *musculi papillares*, but that it is much facilitated by the small specific gravity of the valves, which enables them to float on the surface of the blood.

Dr. Hamernik then proceeds to make some remarks, which he considers in part deducible from the preceding:—

1st. It is possible that there may occur one or more systoles of the ventricles, unpreceded by any auricular action, forming what is called the "*rhythmus intercurrents*" of the heart's action. In chronic asthma and pneumonia, the blood, powerfully propelled by the expiratory movements, may distend the auricles to such an extent, that they are unable to contract on their contents. In which circumstances, two or more systoles of the ventricles are required before the auricles can unload themselves.

2d. The division, by the older anatomists, of the ventricles into *portio auricularis* and *portio arteriosa* is physiologically and pathologically significant. In the former, there is a current of blood, until the closing of the auriculo-ventricular valves, continuous with that of the veins. In the latter, a current is established by the ventricular systole, continuous with that of the arteries. Where there is no motion of fluid, there can be no murmur; consequently, simple roughness of the mitral valve by exudation, or otherwise, will not give rise to a murmur with the first sound, unless the valve be also insufficient.

3d. The mechanism by which the valves of the arteries are closed, is similar to that of the auriculo-ventricular valves. Immediately on the contraction of the ventricles, the pressure of the blood attained in the large arterial trunks, acting equally in all directions, effects the closure of the semilunar valves. Their complete closure occurs contemporaneously with the end of the ventricular systole. When the ventricular diastole begins, the arterial retraction commences, and the wave of reflux from the large arteries falls upon the valves already closed, and thus is produced the clear second sound. There is no regurgitation, which would necessarily be the case, to a certain extent, were the valves shut only by the returning wave of blood.

4th. The first sound of the heart is occasioned by the vibration of the tense auriculo-ventricular valves, acted on by the blood propelled against them during the systole of the ventricles, and the vibration of the *chordæ tendinæ*. In like

manner, the second sound is produced by the impulse of the blood on the semilunar valves already shut, and not by their closure.

5th. A double or even a treble sound is sometimes heard over the ventricles, which has been ascribed to various causes, but is probably due to a double vibration of the tense auriculo-ventricular valves—just as a sail struck by the wind may emit several sounds. The same explanation is given when the phenomenon occurs with the second sound.

In contraction of the mitral orifice, there is occasionally heard a peculiar sound, termed *cliquetis métallique*, or “audible heart impulse,” and of which different explanations have been offered. According to the author’s experience, all true heart-sounds are heard by mediate or immediate auscultation only. This sound, however, is heard at a distance from the chest, and is hence presumed by him to depend on the motion imparted by the heart’s systole.

6th. Morbid conditions of the muscular parietes of the heart cannot prevent closure of the valves.*

10. *Heart, Irritability of.*—Tiedemann, wishing to test the opinions of Fontana respecting the irritability of the heart, placed the freshly cut-out heart of a frog under the receiver of an air-pump, and withdrew the air; the pulsations of the heart at once became weaker and slower, and in thirty seconds ceased. After an interval of five minutes, air was readmitted, and the pulsations again proceeded. These alternate experiments were several times repeated, and with the same results. Another heart, suspended in air, continued in uninterrupted motion for an hour. For this cessation of the heart’s action in vacuo, Tiedemann gives two reasons: 1st, the want of an excitor to contraction; and, 2d, the withdrawal of oxygen, without which the muscles cannot be maintained in the condition necessary for contraction. Under pressure in the air-pump, the heart’s action became quicker and stronger; under three atmospheres, it beat strongly for twenty minutes, and continued to beat for more than an hour, when removed from the air-pump. This increased action he attributes to the increased source of irritation, and to the larger amount of oxygen in the compressed air.†

11. *Circulation in Insects.*—M. E. Blanchard has studied the circulation in all classes of insects; he does not find any essential difference of it in any of them. He shows that the blood penetrates between the two membranes which constitute the trachea, and this is the main discovery of his researches. It has hitherto been thought that the air, as Cuvier remarked, was carried through the body to meet the blood; but, in reality, it is the blood that seeks the air, just as it does in those animals which have a pulmonary respiration. In the one case, the respiratory apparatus is localized; in the other, it is disseminated through all parts of the body; so that the difference is, after all, rather anatomical than physiological. M. Blanchard thus sums up his description: “In all insects, there exists a dorsal vessel, which is the centre of the circulation, having a cardiac and an aortic division; the *cardiac* portion is divided into compartments, the number of which varies in different species: these compartments are provided with lateral orifices for the return of the blood: the *aortic* portion is destined to convey the nutritious fluid towards the anterior part of the body. The blood, having thus reached the head, spreads through all the inter-organic spaces, and at the same time is diverted into the lacunæ, situated near to the origin of the respiratory tubes, and then penetrates into the membranes of the trachea, which are kept open at their bases by a spiral cord. The fluid, thus carried through all the organs of the body, between the two tunics which form the respiratory tubes, is separated from the air only by a single membrane; the trachea, in their periphery, becoming veritable bloodvessels. The blood is returned into the large lacunæ, and from them is returned into the dorsal vessel by efferent canals formed of cellular tissue, and having no membranous walls.”‡

12. *On the Capillary Circulation.*—In addition to the capillary or intermediary system of vessels at present admitted by anatomists, and which M. Bourguery considers as constituting a mere anastomosis between the arterial and venous

* Edin. Monthly Journal, from Prager Viertel Jahr., 1847, vol. ii.

† Müller’s Archiv., p. 491, 1847.

‡ Annal. des Sci. Nat., June 1848.

radicles, unconnected with the vital changes going on in the tissues, the author describes a circulation of *capilliculi*, forming a diverticulum of the general circulation, and pervading more minutely than the capillaries the ultimate elements of every organ. These he looks upon as the proper and *special organic* circulation, by which, in different organs, the functional changes of secretion, nutrition, &c., are carried on. The *general* circulation in itself does not produce any functional changes, but merely preserves unbroken, and independent of the activity of the special circulation, the progressive movement of the blood, which at all times passes over in part from the arterial to the venous system, through the capillaries; while the *capilliculi* receive a part of it for elaboration in the special tissues to which they are destined. These capilliculi (the size is not stated) are impervious to all particles which are not in solution; the blood-corpuscles do not pass through them; nevertheless, they may always be traced, varying in disposition according to the organ or tissue in which they are situated. For the most part, they are tolerably uniform in size; but they may be observed, on the one hand, to pass into vessels still more minute (not equal to the half, third, or fourth part of the diameter of a blood-corpuscle); and, on the other, into the ultimate lymphatic vessels, which again communicate by innumerable minute passages with the venous system.

M. Bourguery conceives that this scheme of the circulation completes, without abrogating, that of Harvey and the majority of physiologists. On the one hand, it admits a general circulation of the kind described by Harvey, which is permanent and complete in the circle which it describes; on the other, it asserts an extension of this by an infinite number of partial or functional circulations, isolated from each other, but connected by means of the general circulation, and, in their united capacity, very much exceeding the latter. These partial circulations are special and heterogeneous, in their function and distribution, and are only periodically active; the only exception to this being in the lung, where the special may be considered as subserving a mechanico-chemical function: and, being properly a function or complement of the general circulation, is, like it, permanent and complete.*

—Dr. Bennett Dowler has published a pamphlet, in which, after criticising the various theories of the capillary circulation, he maintains that of a circulatory power entirely independent of the general circulation. The experiments upon which he bases his opinions are numerous.†

13. *Blood, State of the Fibrin in.*—M. Horn affirms that the fibrin in the blood is united to the corpuscles, and not free; his proofs are, that, when frog's blood is filtered, the fibrin appears in the form of flocculi, or thready coagula, and the microscope shows that these are formed out of the granules which are met with in the blood, and have the characters of fibrin: moreover, when the fibrin is carefully removed by beating, these corpuscles can no longer be found. The fibrinous corpuscles are formed from the colourless molecules, found so abundantly in the lacteals and lymphatics. M. Horn believes that these molecules by aggregation produce true lymph-corpuscles, which, indeed, in their earliest stage, appear like conglomerates of extremely little molecules. The molecules dissolve away as the corpuscles progress, the corpuscles become flattened and smooth, and are, lastly, converted into blood-corpuscles. M. Horn considers, also, that pus-corpuscles are nothing but aggregations of these molecules; just as, in the normal state, the fibrin is converted into globulin, so, in pathological conditions, it is changed into pyin.‡

14. *Blood, Venous and Arterial Difference.*—According to Bécларd, venous blood differs from arterial, in containing less globules and more fibrin. The blood in the arteries everywhere presents the same sensible characters: not so the blood in the veins. The blood in the splenic vein constantly contains less globules than any other venous blood in the system, and the spleen seems to be the organ of destruction of the blood-globules. The blood in the vena porta, before its junction with the splenic vein, varies much in its composition. At

* Comptes Rendus, Sept. 4, 1848; and Edin. Monthly Journal.

† Researches, Experimental and Critical, on the Capillary Circulation.

‡ Schmidt's Jahr., Band viii. p. 147, 1848.

the commencement of digestion, the globules are considerably diminished, and the albumen increased; but, when digestion is completed, the globules are augmented, and the albumen normal in quantity; the globules, therefore, seem formed in the vena porta. Thus, in the same system, the globules are formed and destroyed; the mesenteric branch of the vena porta continually supplies new globules to the liver; and the splenic branch as continually casts into the same vein traces of those which have ceased to exist. The physical properties of the fibrin of the blood in the vena porta and splenic vein differ also from the fibrin in the general venous circulation.*

15. *On the Changes which the Blood-Corpuscles undergo in the Spleen.*—Dr. Ecker, of Basle, and Professor Kölliker have simultaneously been engaged in investigations on the nature of the cells which occur in the spleen of various animals, and which contain blood-corpuscles and yellow granules. Repeated observations convinced Dr. Ecker that the occurrence of these bodies was perfectly normal; and, further, that the blood-corpuscles in the spleen undergo a normal disintegration. He found, in the spleen of rabbits, dogs, sheep, and calves, besides the known cells and nuclei, other cells inclosing blood-corpuscles. Thus, for instance, in the calf, cells were observed of about 0.007 millim., containing *one* blood-corpuscle, and a perfectly pale and finely granular mass. On the addition of water, the cell burst, the blood-corpuscle escaped, and, after growing paler, disappeared. Other cells (of about 0.010 millim.) contained *two* blood-corpuscles, and besides these, some also contained a granular nucleus, exhibiting a perfect resemblance to the ordinary cells of the spleen; whilst others again inclosed only a fine granular mass, but no nucleus. Other cells contained *three* or *four*, or sometimes even *ten*, or more blood-corpuscles, of about 0.015 to 0.030 millim. The form of these cells is sometimes round, sometimes irregular; they sometimes contain a nucleus, sometimes not; the cellular membrane is generally very distinct. In some cells, instead of blood-corpuscles, there are only yellow, or brown, or blackish granules, which, as is evident from the stages of transition, are owing to a disintegration of the blood-corpuscles. Thus we find large cells (0.030 millim.) filled with shrivelled, yellow blood-corpuscles, which do not change in water, and are filled with yellow granules. In the free blood-corpuscles, numerous transitions from the normal to the shrivelled state are observed, and nowhere are more important differences in the size of the blood-corpuscles exhibited than in those of the spleen. An investigation into the nature of the blood-corpuscles in the spleen of frogs and tritons showed Dr. Ecker the occurrence of precisely similar changes, and, in speaking of the signification of these alterations, he adduces two hypotheses, which had at first sight appeared to him to furnish an equally satisfactory elucidation of the subject: 1. That the blood-corpuscles, either singly, or several together, become inclosed in cells, within which they are disintegrated; or already disintegrated blood-corpuscles become inclosed by cells. This fact is not without analogy, since, in the brain and the thyroid gland, similar changes of the blood occur under different pathological conditions, as in effusions. The destination of these cells is not known with certainty, but, as Dr. Ecker found them in the blood of the splenic vein (in a calf), he conjectures that they reach the liver with the portal blood; and that a separation of the blood which has lost its vitality is effected in some way by the bile. 2. The second hypothesis, the validity of which Dr. Ecker has, however, found reason to doubt since his investigations have been solely directed to the changes observed in the spleen of mammalia, was as follows: that the cells which inclose one or more blood-corpuscles are converted into lymph-corpuscles, the lymph being changed by the addition of blood constituents. The red colour of splenic lymph appeared at first sight to corroborate this view, but subsequent investigations showed that no such bodies were to be found in the splenic lymph of a calf. It would appear that the separation which occurs in the vesicles of the spleen serves the same end as the vesicles of the other blood-preparing glands. Kölliker has extended his observations on these changes of the blood-corpuscles to so large a

* Gaz. Méd. de Paris, Jan. 22, 1848.

number of the classes of vertebrata, that we may consider them as of general occurrence in all these animals.*

16. *On the Blood of the Splenic Veins and of the Vena Portæ.*—After long reflection upon the functions of the spleen, it occurred to M. Bécларd, that an examination of the blood in the splenic veins might throw light upon this; and, in a letter addressed to M. Dumas, he furnishes an account of the results invariably arrived at in eight experiments performed on dogs.

1st. The blood returning by the splenic vein, prior to its junction with the vena portæ and veins of the stomach, contains a smaller proportion of globules than arterial or even venous blood in general. 2d. The quantity of albumen is proportionably increased; and, indeed, the disappearance of the globules can be conceived of with difficulty, without their principal constituent element being thus found to be present. 3d. I have sought for the constant source of the renewal of the globules, which appeared to be thus incessantly destroyed in the spleen. I first thought of the lungs, and, as all the blood of the organism traverses them, the entire question resolves itself into this—whether a notable difference exists between arterial and venous blood, in respect to amount of globules. A larger proportion does exist in arterial blood, but to so slight an extent as to be explicable by other causes; so that I abandoned the idea of the lungs being the exclusive organ for the formation of globules. 4th. The arterial blood examined at different points of the circulation, is found to present an identical composition in the same animal; while the venous blood differs in respect to its proportion of elements, according as it is examined in different regions. The blood of the splenic veins is an example; but to my surprise, I found that the amount of globules in that of the vena portæ, prior to its junction with these, so far from being diminished, was considerably increased; and, so abundant is the supply of globules thus brought from its radicles to its trunk, that intestinal absorption at once presents itself as an explanation of the accumulation. The following table exhibits the differences, as observed in four successive bleedings, performed on the same dog:—

	Ext. Jugular.	Mammary Artery.	Splenic Vein.	Vena Portæ.
Water	778.9	750.6	746.3	702.3
Albumen	79.4	89.5	124.4	70.6
Globules and fibrine. . .	141.72	159.9	128.9	227.1†

At the sitting of the Académie des Sciences, Jan. 17, 1848, M. Bécларd made an additional communication upon this subject, and after referring to the above experiments, added, that he had since made thirty-six comparative analyses between the blood of the splenic and the external jugular veins; selecting the latter as the most convenient representative of the mean composition of venous blood. These also showed a less proportion of globules, a larger proportion of albumen, and a somewhat larger one of fibrine, in the blood returning from the spleen. “So that the spleen, so far from being an organ for the formation of globules, would appear to be the place of their destruction.” To prevent error, the blood of the vena portæ was examined in its intestinal branch (sup. mesenteric), and the proportion of its elements was found to undergo an extensive variation. Thus: 1st, during the early period of the digestive absorption, the quantity of albumen is considerably increased; and 2d, the same occurs at a later period with respect to the globules; while, 3d, if the animal has been subjected to long abstinence, the proportion of constituents is the same as that found in the general venous system. “It results from these experiments on the blood of the vena portæ, that the globules commence and finish in the same system. While, in fact, the intestinal branch of the vena portæ brings the new globules to the common trunk, the splenic branch transmits to it the vestiges of those which have been destroyed in its interior. The blood of the vena portæ not containing a larger proportion of fatty matters than the venous blood in general, and chyle differing from lymph, especially by the presence of fatty

* Brit. and For. Medico-Chirurg. Rev., July 1848, from Henle und Pfeuffer's Zeitschrift, Band vi. Heft. 2.

† Annales de Chimie et de Physique, 1847, tom. xxi. pp. 506-8.

matters, it is, if not demonstrated, at least very probable, that albuminoid matters enter the blood by one sole channel, the vena portæ. On the other hand, these same matters enter the blood under one form alone, that of albumen. Finally, as the transformation of albumen into globules takes place in the vena portæ, and this only some hours after the commencement of digestive absorption, it results that the blood circulating in the portal system is not subjected to the general laws of the circulation. I shall examine this important physiological point in my next memoir.”*

17. *Blood, Normal Presence of Lead and Copper in.*—A reference to “Abstract,” Vol. II. p. 327, and Vol. VII. p. 289, will afford the earlier investigations of Devergie, Boutigny, and others, on this point. More recently, copper has been found in the blood by M. Deschamps† and Dr. Harless,‡ and both copper and lead by M. Millon.§

—M. Melsens, on the other hand, denies the fact *in toto*, and affirms that the lead and copper must have been derived from the tests.||

§ III.—*Anatomy and Physiology of the Nervous System.*

18. *Ganglionic System of Nerves.*—We have received the third part of an elaborate essay, by Dr. Radclyffe Hall, on the anatomy and physiology of the sympathetic system. It is too extended for satisfactory analysis in the present Report, but we strongly recommend it to the attention of both the physiologist and physician.¶

19. *Nerves of the Tongue.*—M. Bourguery has contributed an important memoir, in which he describes the ultimate ramifications of the nerves of the tongue. The nerves which supply this organ are: 1st, the ninth or hypoglossal; 2d, the lingual division of the trifacial; 3d, the lingual portion of the glosso-pharyngeal; 4th, the chorda tympani; 5th, another branch of the facial which unites with the glosso-pharyngeal; 6th, a branch of the superior laryngeal; 7th, nerves from the carotid plexus. These nerves are subsequently classed according to the regions to which they are distributed; after which, they are separately noticed in the following order:—

1st. *The hypoglossal nerve.*—After giving off the descendens noni branch, this nerve forms a plexus at the base of the tongue on the external surface of the hyo-glossus muscle, with filaments from the lingual and from the sympathetic plexus accompanying the arteries; and these plexuses are repeated on all planes, in the substance of the organ. By the aid of the microscope, M. Bourguery states, he has recognized, *first*, their junction by ganglionic filaments with the plexus accompanying the lingual artery; and *second*, the origin, from the anastomosing arches, of numerous filaments distributed to the muscular structure, and beneath the mucous membrane; the cerebro-spinal nerves, hypoglossal and lingual, being respectively motor and sensory, and the sympathetic filaments presiding over the nutritive functions. Besides the plexus on the hyo-glossus muscle, the following have been observed, formed by the hypoglossal and lingual nerves: 1st, in the genio-glossi muscles; and 2d, at the extremities of the stylo-glossi. To these may be added, 3d, a plexus formed by the hypoglossal and glosso-pharyngeal, in the external portion of the stylo-glossus muscle; and 4th, a plexus in the glosso-pharyngeus muscles, formed by the glosso-pharyngeal nerve and the pneumogastric. These are exclusive of the minute plexuses, which may be discovered, by the aid of the microscope, in every part of the tongue.

The lingual nerve has a less extent of distribution than the hypoglossal, but is more bulky, in accordance with the common character of the nerves of sensation to be larger in size, but with a less surface of distribution, than those of motion. It is with the internal branches of this nerve that the hypoglossal forms

* Brit. and For. Med.-Chirurg. Review, July 1848, from Comptes Rendus, tom. xxvi.

† Comptes Rendus, Feb. 1848.

‡ Müller's Archives, 1847, p. 149.

§ Comptes Rendus, Jan. 1848.

|| Annales de Chimie et de Physique, July 1848.

¶ On the Ganglionic System of Nerves, by Dr. Radclyffe Hall.

plexuses on the genio-glossal and stylo-glossal muscles, at the base of the tongue. The *plexus in the genio-glossal muscles* is remarkable for the abundance and extent of its anastomosing filaments. It is composed of: 1st, nerves from the sympathetic plexus, surrounding the lingual artery; 2d, the hypoglossal nerve, which here divides into a plexus, formed by eight or ten principal branches, connected by numerous smaller filaments; 3d, the lingual nerve, similarly divided, but of a less plexiform appearance. The plexuses are connected on the two sides, and in front they are continuous with those of the stylo-glossi muscles.

Having been thus distributed throughout the tongue in a series of minute plexuses, the hypoglossal and lingual nerves have each their respective final arrangement; the greater portion of the former supplying the muscles, and the latter for the most part, the mucous membrane.

The following nerves are distributed exclusively to the mucous membrane of the tongue: The lingual portion of the *glosso-pharyngeal nerve*, the most important of those which are exclusively distributed to the mucous membrane, is divided into an internal and external branch. The internal, the larger branch, is distributed to the parts at the base of the tongue, and supplies exclusively the *papillæ caliciformes*. The external branch, according to M. Bourguery, may be followed with the microscope as far as the point of the tongue. Posteriorly, it forms a plexus with filaments from the internal branch; and from this, according to Valentin, is derived the portion which is distributed to the mucous membrane of the inferior surface of the tongue. Its dorsal branch, the continuation of this portion of the nerve, passes forward parallel to the principal lines of the fungiform papillæ, and expands towards the point of the tongue, where these papillæ abound: hence it would appear to be intended for their supply, but this M. Bourguery cannot positively assert.

The *chorda tympani* is intimately united in man with the lingual nerve; but its distribution has been followed in some animals, in which it is separate, and found to be directed to the dorsal surface of the tongue, to be distributed to the tegumentary membrane. Its function does not appear to have been determined; MM. Bernard and Guarini considering it to be a nerve of motion, while, according to MM. Biffi and Morganti, it is a nerve of sensation. This point can only be determined by examining into its real origin.

Another branch of the *facial*, described successively by MM. Richet, Ludovic Hirschfeld, and Gros, is given off in the aqueduct of Fallopius, below the origin of the chorda tympani, and is united with the antero-external branch of the glosso-pharyngeal, with which it forms a plexus around and within the stylo-pharyngeus muscle. It is distributed, with the glosso-pharyngeal, to the mucous membrane, and appears to be a motor nerve.

The *superior laryngeal nerve* of the pneumogastric, according to MM. Cruveilhier and Richet, gives a branch which enters the tongue beneath the internal branch of the glosso-pharyngeal, and is distributed to the mucous membrane as far as near the lingual V.

The *sympathetic nerves*, accompanying the arteries, form numerous anastomoses at all points with the other nerves of the tongue.

Deferring the consideration of the ultimate distribution of the nerves in the papillary membrane to a future part of his memoir, M. Bourguery gives the following *résumé* of the respective functions of the nerves.

The tongue receives for each of its halves:—

1st. *Two, or perhaps three, motor nerves*: (a) The *hypoglossal*, a large nerve in proportion to the size of the organ: (b) A branch from the *facial*, presumed to be motor, and anastomosing with the glosso-pharyngeal: (c) The *chorda tympani*, supposed by some to be a nerve of motion, by others of sensation.

2d. A portion of three *mixed or sensory nerves*, derived from the medulla oblongata: (a) The *glosso-pharyngeal*, for the most part a nerve of special sensation, and by which the tongue is placed in relation with the pharynx, fauces, and velum palati: (b) The *lingual*, considered by some as the nerve of taste, by others, as merely a nerve of sensation; but, at all events, a large branch of the trifacial, the sensory nerve of the fauces: (c) A large branch from the pneumogastric.

3d. The tongue is richly supplied, in proportion to its size, with *sympathetic nervous plexuses*, accompanying the arteries.

The following is a summary of the manner in which the nerves of the tongue are united with each other: 1st, the two nerves of sensation; 2d, each of these with the nerves of motion; the lingual with the hypoglossal and chorda tympani, if the latter be a motor nerve: the glosso-pharyngeal with the other branch of the facial, and with the hypoglossal in the stylo-glossus muscle; 3d, the motor and sensory nerves with the plexuses of the sympathetic; 4th, the three kinds of nerves on one side are united to those of the other.

The tongue is placed in functional relation: 1st, with the motor powers of the "hyo-glosso-pharyngeal apparatus" by the hypoglossal nerves; 2d, with the rest of the pharynx, by the glosso-pharyngeal and pneumogastric nerves; 3d, with the face, by the facial and trifacial nerves; 4th, with the digestive apparatus, by the sympathetic plexuses, and the pneumogastric nerves.*

— Dr. Stannius experimented on these nerves, to ascertain their function. When the hypoglossal nerve was seized by the forceps, the animal showed signs of pain; loss of movement followed division of both hypoglossal nerves, the animal could not protrude its tongue, and when it was drawn out, it could not retract it; left between the teeth, it was bitten, to the great pain of the animal; but neither taste nor sensation was lost. When the lingual branch of the fifth was touched, great signs of suffering were shown; and, when cut, loss of sensation followed; the tongue could be pinched, torn, or cut, without any symptoms of pain appearing; yet the animals could move it in every direction, but without control, and they seemed to protrude it like a foreign body from the mouth; their taste also remained uninjured, bitter substances producing the usual signs of disgust, foaming, and flow of saliva, often indeed more so than in uninjured animals. Complete loss of motion and sensation followed division of both hypoglossal and lingual branches of the fifth nerves, but taste remained perfect. When the glosso-pharyngeal nerve was torn, the cats showed clear signs of pain; but it is difficult to say, whether the pain was excited by direct injury of the nerve, or by disturbance of the neighbouring parts. When both glosso-pharyngeal nerves were completely torn out from their roots, the movements of the tongue were in no way affected, and sensation still remained; but the sense of taste was lost—bitters on the tongue produced no loathing, and cats drank milk with quinine, and pure milk, indifferently. Dr. Stannius's experiments fully agree with those of Panniza and Pappenheim. Biffi and Morganti's experiments seem to show that the glosso-pharyngeal nerve is not the exclusive nerve of taste; and that on the forepart of the tongue taste depends on the lingual branch of the fifth. A very simple experiment will show that the palatine branches of the fifth are endowed with taste; when powdered quassia on the wet end of a finger is rubbed on the soft palate, a sense of bitterness immediately follows.†

20. *Glosso-pharyngeal Nerve*.—Drs. Biffi and Morganti have renewed their investigations concerning the function of this nerve. In their former experiments, they could discover no motor-power in it; they said: "Bi convincemmo pienamente che il nervo glosso-faringeo nè richiude in se nessuna fibra motrice, nè primitivamente fornitagli dalle sue radice, e nemmeno datagli da anastamosi, che egli faccia con altri nervi."‡ They now state that this nerve does contain motor-fibres in its roots. Experimenters on these nerves are apt to fall in errors, by reason of their rapid loss of excitability; when, through want of skill in the operator, the experiment has been too prolonged, no irritation of these nerves will excite contractions; and often, when motion is produced, it is of so weak a character, as readily to be overlooked. Drs. Biffi and Morganti experimented on dogs, two or three months old. The skull was rapidly opened, the nerve exposed, and divided within the cranium; irritation of the peripheral portion of the nerve produced contractions of the uvula, the soft palate, and its anterior arches, on the side corresponding to the nerve irritated. These weak and

* Edin. Monthly Journal, March 1849, from Gazette Médicale.

† Müller's Archiv., p. 132, 1848.

‡ Annal. Universal. di Méd., tom. ii. p. 384, 1843.

limited contractions were very different from the vigorous movements produced in the whole soft palate and pharynx, by irritation of the roots of the spinal accessory nerve. It is impossible to consider these experiments as decisive. They certainly do not contravene the opinion of Dr. J. Reid as to the *general* function of the glosso-pharyngeal nerve, and the former elaborate experiments of Biffi and Morganti strongly confirm the opinion that the glosso-pharyngeal is sensory, and that through it reflex movements are excited.*

21. *Spheno-palatine Ganglion*.—M. Gros gives a new description of the spheno-palatine ganglion; it does not, as Meckel supposed, form part of the fifth pair, but is merely annexed thereto, a fact easily demonstrated in the lower animals, and to be observed in man. It is composed of two portions, a free and an attached. The free portion has hitherto entirely escaped the observation of anatomists; it may be called, from its distribution, the orbital division; the adherent portion is the proper ganglion of Meckel, and is the naso-palatine division. Anatomists have heretofore sacrificed the superior free portion; it affords a number of branches and radiating twigs to the orbit and cavernous sinus; 60 can be counted in a horse, 30 to 40 in ruminants, 10 in monkeys, 15 in man, 7 or 8 in the dog, and 4 or 5 in the rodentia. It is to this portion that the ganglion especially owes its character of individuality and independence. The inferior portion, the proper ganglion of Meckel, furnishes filaments, which unite with the nasal and palatine nerves, and go to the pituitary membrane, and the roof of the palate; outwards, it sends filaments to the internal maxillary artery and its divisions; behind, it receives filaments from the fifth, the vidian nerve, and a number of minute filaments, which establish a free communication with the great sympathetic.†

22. *Interosseous Nerve of the Leg*.—Fibrous membranes were long considered, on the authority of Morgagni and Haller, destitute of nerves; but numerous observers have since shown their presence in the dura mater, and they have there been microscopically demonstrated by Purkinje and Pappenheim. Dr. Halbertsma, at the request of J. Müller, has investigated anew the course of the interosseous nerve of the leg, and confirms the fact above referred to. This nerve arises from the tibial nerve opposite the semilunar cartilages; passing for an inch or two down the posterior surface of the interosseous membrane, it becomes imbedded in its fibres; at the lower fourth it again passes to the posterior surface of the membrane; in the upper half of its course it runs near and parallel to the fibula, but lower down it approaches nearer to the tibia, and, at last passes before the posterior tibio-fibular ligament on to the lower surface of tibio-fibular articulation; beyond this, Dr. Halbertsma could not trace it; it appeared to be lost in twigs to the surrounding ligaments. It gives off several branches in its course; it sends off three where it first reaches the membrane, two passing towards the tibia, and one towards the fibula; between the upper and middle third it sends another to the fibula, and a somewhat larger one to the tibia, between the middle and lower third and another to the tibia, in the lower third, before it enters the articulation; the last two branches are the largest, and Dr. Halbertsma could follow their fine divisions in the periosteum. No artery accompanies the nerve in the interosseous membrane, but vessels are seen near those branches, which reach the periosteum. It diminishes in size as it descends, a proof that it gives off branches. It consists in great part of organic nervous fibres.‡

23. *Origin of Nerve-fibres*.—Wagner gives further proof of the correctness of the opinion, that the fibres of the cerebro-spinal and sympathetic systems originate directly from the so-called ganglion, or nerve-corpuscles. Two kinds of these corpuscles are found to exist: *one* large, filled with fine, granular matter, held together in a globular form by an albuminous substance, having a vesicular nucleus and nucleolus, and showing a connection with nerve-fibres; the *other* smaller, and unconnected with nerve fibres. In most cases, when a clear view of the first kind can be obtained, two primitive nerve-fibres may be observed,

* Müller's Archiv., p. 357, 1847.

† Comptes Rendus, p. 247, 1848.

‡ Müller's Archiv., p. 303, 1847.

proceeding from it; near the corpuscles, the fibres are broad, and contain similar granular matter to the corpuscles, from whence they spring, but they gradually lose this, and assume the ordinary characters of nerve-fibres. The fibres arising from the smallest of this kind of corpuscles are finer, and more decidedly granular; sometimes, however, fine fibres spring from the larger corpuscles, and broad fibres from the smaller. The sheath of the fibre is distinctly continuous with that of the corpuscle. Wagner, in tracing the relation of the fibres to the corpuscles in ganglia, often observed that one of the fibres proceeding from a corpuscle passed from the ganglion into the trunk of the nerve proceeding towards the nervous centres, while the other joined the nerve proceeding to the periphery. He appeared also to think that all the fibres which entered or departed from the ganglia, became related with nerve-corpuscles as described, rendering it improbable that any multiplication of fibrils ever take place in a ganglion.*

24. *Bloodvessels of Nerves*.—Mr. Swan has described a peculiar arrangement of the bloodvessels of the nerves on the surface of the heart of an ox. The nerves here are very small, in proportion to the part they supply, and their branches also, before they are joined by their respective arteries. The arteries are large in proportion to the quantity of nervous matter the nerves contain; they run along the surface of the nerves, and appear, when empty of blood, as faint transparent lines, and they in all probability are continued to the extremities of the nerves; on each side of the nerves runs a vein, which communicates with one of the veins of a neighbouring nerve. The artery and vein together form the bulk of each nerve. There is an analogy of arrangement, and so perhaps of function, between the ciliary nerves and arteries and these nerves and arteries.†

25. *Ophthalmic Ganglion*.—Mr. Poland describes this ganglion in the horse. Authors, he says, have given most discrepant opinions concerning it, some have even denied its existence; with due care it may always be found, and Mr. Poland describes the best mode of displaying it. It is placed on the middle division of the inferior branch of the third nerve; close to where the branches to the inferior rectus, and interior rectus, are given off; it has a round or oval form (once Mr. Poland found it linear), of the size of a pin's head, and has the appearance of a transparent vesicle; under the microscope, it shows a plexus of nerve-fibres and ganglion-corpuscles. It receives a short, thick branch from the third nerve, and a long, slender one from the nasal branch of the fifth. Three ciliary trunks pass from its anterior border, and, dividing into minute branches, are lost on the cellular envelop of the optic nerve, and then pass forward and enter the sclerotic around the insertion of the optic nerve.‡

26. *Nerves of the Cutaneous Surface*.—From observations on numerous patients, M. Beau, of the Hôtel-Dieu, has been led to conclude that the general surface of the body is endowed with two kinds of sensation: viz., a sense of tact, and a sense of pain. His attention was first drawn to the fact by a patient suffering from lead-poisoning, in whom were found complete loss of sense of pain and of tact in the *thigh*; and loss of sense of pain, but not of tact, in all the other parts of the body. Since then he has frequently observed the same phenomena in various other diseases, hysteria, hypochondriasis, &c.§

27. *Functions of the Cerebellum*.—An interesting case of apoplexy of the cerebellum, bearing upon this disputed point, has been recently brought forward by Mr. Denon. The patient was a man, 52 years of age, whose sight had for some years been much impaired, from an amaurotic affection. The author was first called to attend him in June, 1843, when he was suffering from cephalæa and febrile disturbance. This attack left his sight more impaired. About two years ago, he became unfortunate in business, and from that time his mind was weak and excitable. On the last day of April, 1848, he was seized during the night, with sickness and faintness, and, getting out of bed, fell, as it was thought, in a fainting fit. The author found him in a low, exhausted state, and cold,

* Medical Gazette, vol. xli. p. 568.

† Medical Gazette, Sept. 1, 1848.

‡ Guy's Hospital Reports, vol. vi. pt. 1.

§ Archiv. Générales, tom. xvi. p. 130.

but complaining of pain, heat, and uneasiness in the back part of his head. The latter symptoms continued for some days. There was no paralysis, but his mind was weaker and more confused than before, and his emotional excitability increased. Early in May, his wife mentioned that he had become subject to a constant desire for sexual intercourse; that his conduct in this respect was very different from what it had been before his late attack. By the advice of the author, he left home for about three weeks, without his wife. On his return, the desire of sexual intercourse was abated, and from this time was gradually lost. There was now observed an unsteadiness of gait, which increased, and for some time before his death was attended by weakness and stiffness of the left leg and foot. On the 6th of Sept. he was seized with an apoplectic attack, and died in less than four hours. After death, the vessels on the surface of the brain were found turgid. The convolutions of the brain were shrunken, deficient in firmness, and of a dingy yellow colour. The optic nerves, shrunken and of a dingy colour, were, together with the substance of the brain around them, in the cerebral part of their course, softened. The whole region of the meso-cephale had an unhealthy aspect. The interior of the right hemisphere of the cerebellum was a softened pulpy mass, in the midst of which was an apoplectic clot, of the size of a pullet's egg. The softening extended inwardly, beyond the centre of the median lobe, implicating the fibrous strands of the middle and inferior planes; and outwardly, near to the surface of the hemisphere. The whole arterial system of the brain presented the diseased condition which results from cartilaginous and osseous deposit between the coats of the vessels. This state was remarkably apparent in the vertebral arteries, especially in the cerebellar branch, from which the hemorrhage appeared to have taken place. The author regards this state of the vessels as the primary cause of disease. He believes that the first attack in April was of the same nature as the fatal seizure. Around the first apoplectic clot, inflammation, he thinks, was set up in the cerebellum, and this terminated in disorganization. To the inflammatory state of the cerebellum, he refers the exaltation of the sexual propensity; to the stage of disorganization, the depression of that feeling, and the disturbance of the powers of locomotion—namely, the tottering gait, from defective power of co-ordination, ending in a weak and stiffened condition of the left leg. He refers to another similar case which had come under his observation, and pointed out that the median lobe of the cerebellum is a primitive and independent part, and argues that it is the sensory ganglion of the sexual instinct, and belongs to the same category with the optic, olfactory, and auditory ganglia; while he thinks the two cases he has noticed afford pathological proof that another office of the cerebellum is that of a regulator and co-ordinator of the muscular actions, especially of those subservient to locomotion, and to the maintenance of the equilibrium of the body.

In the discussion which followed, Dr. Marshal Hall and Mr. Owen denied that the cerebellum was the seat of the sexual instinct. Dr. Carpenter supported that view.*

‡ IV.—*Anatomy and Physiology of the Respiratory System.*

28. *Larynx*.—Dr. Segond has ascertained that ossification of the cartilages of the larynx takes place at different epochs of life, and not merely during old age; ossification originates in certain points of the cartilages, generally where the muscles are inserted. The cricoid cartilage is the first ossified, and the arytenoid the last. When the ossification of the cricoid cartilage is complete, its general dimensions may be so altered as to prevent its anterior part moving under the thyroid cartilage, and hence arises a difficulty in the production of high notes. When the thyroid cartilage is ossified, the foramen generally observed in it is obliterated, the oblique line may appear as a ridge, and the lower border is thickened, and impedes the movements of the cricoid cartilage; these movements may also be greatly interfered with by the unusual length of the

* Reported in the *Lancet*, March 24, 1849.

lower cornua of the thyroid cartilage. The superior and inferior processes of the arytenoid cartilages resist ossification for a long time.*

— M. Crouzel has discovered a new internal laryngeal muscle, which he calls the crico-thyroideus posticus. The new muscle, he says, is situated above and outside the corresponding crico-arytenoideus posticus; it extends from the posterior aspect of the cricoid cartilage to the inferior border of the thyroid, nearer its smaller cornu. Its posterior surface is covered by the pharyngeal mucous membrane, the anterior is applied to the above-mentioned cartilages; the inferior extremity is inserted into the posterior face of the cricoid cartilage, the superior and external into the lesser cornu of the thyroid cartilage. Its action is to draw the thyroid cartilage downwards and backwards.†

29. *Air-Sacs in Birds.*—According to M. Sappey, who has investigated very minutely the anatomy of birds, the air-reservoirs are exclusively mechanical in their purpose. He argues, that if the respiratory process was effected in the general capillaries, the blood returned by the vena cava to the heart ought to offer properties analogous to those of arterial blood, which, in fact, it does not; again, the structure of the air-sacs differs entirely from that of the pulmonary vesicles, these being very vascular, while those are but slightly so, and the few vessels spread on these sacs have no relation with the pulmonary artery and vein; they rise from the aorta, and return to the vena cava, and therefore only receive arterial blood, and cannot assist in the process of respiration; the air also which penetrates into the greater number of the sacs is respired air. M. Sappey considers them as related: to the diminution of specific gravity; to the isolation of motive power from the function of respiration, which is proved, by the fact of a bird being able to sustain a long flight without respiring; to the strengthening of the equilibrium, and in this respect playing a like part to the air-bladders of fishes; and to the augmenting the extent and force of the voice.

All feathers contain air, and this air is derived immediately from without, and cannot be supplied from the respiratory apparatus.‡

30. *Situation of the Internal Thoracic Organs in reference to the Parietes of the Chest.*—This is the title of one of Dr. Sibson's numerous and useful contributions, and one which is well calculated to supply a want much felt in the practice of auscultation and percussion.

In a well-formed, healthy man, says Dr. Sibson, the chest is marked by several prominences and depressions. The sternum is slightly arched forwards; its greatest projection being on a level with the fourth and fifth ribs. The superior third of the bone projects beyond the cartilages of the corresponding ribs, the inferior sinks below them; the prominence of these ribs, the third, fourth, and fifth, being most pronounced on the left side. The cartilages of the sixth and seventh ribs are crossed by a depression which runs from the inferior extremity of the sternum towards the fifth intercostal space. This is the limit of the chest, properly so called.

It now remains to be seen how these prominences and depressions serve to recognize the site of the subjacent organs. If the finger be placed on the inferior extremity of the sternum, it is over a point immediately above the inferior border of the right lung and the lower edge of the heart. A perpendicular line drawn through the centre of the sternum, has, on the right side, the entire right lung, and on the left, the left lung, together with the uncovered portion of the heart. The cartilage of the fourth left rib has lung above it, and the uncovered part of the heart below.

The lower end of the sternum is a centre to which the organs may be said to converge. The right lung is above and to the right, the heart above and to the left, the liver below and to the right, and the cardiac orifice of the stomach below and to the left, though more deeply seated.

The ribs are divided by the author into three groups: the *thoracic*, consisting of the five first ribs; the *diaphragmatic*, or four last, have no connection with the sternum. The cartilages of the sixth, seventh, and eighth have a mixed

* Provincial Medical and Surgical Journal.

† Archives Générales, Nov. 1847.

‡ Gazette des Hôpitaux, Aug. 10, 1848.

action, serving, in the diaphragmatic group, to protect the lower lobes of the lungs, as well as the liver, stomach, &c.: this is the *middle* group.

The uncovered portion of the heart and the middle lobe of the right lung are indicated by two prominences, one on each side the sternum. The lower border of the heart and right lung are limited by the depressions above mentioned. The same depressions point out the superior limit of the stomach and liver. The liver, on the right side, and the stomach, are indicated externally in front by the projection of the cartilages of the sixth, seventh, and eighth ribs, and on the sides by the separation of the seventh, eighth, ninth, and tenth ribs.

It has been stated that the upper part of the sternum projects more than the cartilages of the corresponding ribs. This projection marks a point at which the two lungs unite by their inner edges in front of the large vessels. When the lungs are but little developed at this situation, the sternum is flattened.

The heart and great vessels occupy the largest portion of the space comprised between the sternum and the vertebral column. In front, between the sternum and the upper and outer portions of the heart, are placed the edges of the upper and middle lobes of the right, and of the upper lobe of the left lung. Behind, the heart and great vessels are separated from the vertebral column by the œsophagus and aorta. The right auricle extends to the right of the sternum, behind the costal cartilages. The right ventricle corresponds immediately with the inferior half of the sternum and cartilages of the third, fourth, fifth, and sixth left ribs. The left is higher than the right ventricle, and corresponds to the fourth and fifth ribs. It is covered by lung excepting at the apex, while, on the contrary, the greater portion of the right ventricle is uncovered.

The large vessels lie behind the upper part of the sternum and corresponding ribs, but covered by a layer of lung. The aorta is exactly behind the sternum, and rises from the third sterno-costal articulation, and bends slightly from right to left as far as the upper limit of the sternum. The vena cava lies to the right of the aorta, the pulmonary artery to the left; the latter passes under the aorta, on a level with the first intercostal space.

The trachea lies near the aorta, but turns to the right, while the latter turns to the left, so that the aorta lies in front of the left half of the spinal column, the trachea in front of the right half. The large vessels springing from the aorta arise in front of the fourth, and the trachea bifurcates on a level with the fifth dorsal vertebra.

The left auricle corresponds to the seventh and eighth dorsal vertebræ, so that a mitral bruit is most distinct here, while an aortic bruit is loudest at the third and fourth dorsal vertebræ. The ventricles lie on the diaphragm.

The exact situation of the septa of the lungs is important in reference to the diagnosis of some pulmonary affections. It may be said approximatively, that the five first, or thoracic group of ribs, cover the upper lobe.

The preceding remarks have reference solely to the case of a robust individual in a state of calm respiration. If, however, from any cause unconnected with pulmonary disease, he becomes enfeebled and keeps his bed, a less quantity of air being inspired, and of blood circulating, the lungs and heart become, in consequence, diminished in capacity, and the prominences of the chest are obliterated. The reverse takes place when respiration is exaggerated. In fact, on a deep inspiration, the situation not only of the thoracic, but of the abdominal organs becomes materially altered. The diaphragm in its descent carries with it the heart and great vessels, the lungs and trachea at the same time pushing the abdominal organs down.

The author, after noticing certain changes induced by disease independent of the lungs, such as rickets, &c., states the different degrees in which certain of the ribs deviate from their natural shapes; he then proceeds to mention some modifications in the regional anatomy of the thoracic organs, and to propose a natural classification founded on his previous observations. He admits three simple and five compound regions. The simple regions are the two *pulmonary* and the *cardiac*. The *pulmonary* regions are bounded by the diaphragm, which on the right corresponds with the third intercostal space in front, and with the eighth rib behind, and on the left side extends to the fifth rib before, and the ninth behind. In front, these regions are limited, the right, by the right auricle

and vena cava, the left, by the left ventricle and the pulmonary artery. The *cardiac* region comprises that portion of the chest which is in immediate relation with the heart, i. e. from the middle of the inferior division of the sternum to the summit of the heart, and from the fourth intercostal cartilage to the lower edge of this organ. The *composite* regions are, the pulmo-hepatic (in which a layer of lung overlaps the liver), the pulmo-gastric, the two pulmo-cardiac, and the pulmo-vascular regions.

The latter portion of Mr. Sibson's important essay is occupied with the application of these anatomical considerations to the diagnosis of thoracic diseases. Thus :—

If the ribs on both sides the chest expand equally and regularly, we may exclude disease of the lungs; but the contrary is the case, if there be any obstruction or diversity in their movements. If, for instance, the thoracic group of the right side move more freely than on the left, and the same shoulder is more elevated, we may, in the case of phthisis, announce that tuberculation is more advanced on the left side than on the right. So again, if there be pericarditis, the motions of the fourth, fifth, and sixth left ribs are much curtailed.

These illustrations will suffice to show the use which the author makes of his laborious and useful investigations. For further exemplifications we must refer the reader to the original paper, the anatomical portion of the essay being that alone which is strictly consistent with the objects of the present Report.*

31. *Lungs, Minute Anatomy of.*—Mr. Rainey, in an interesting communication to the Medico-Chirurgical Society, gives an account of the minute anatomy of the lungs, of which the following summary includes the principal points of interest:—

1st. With respect to the bronchial tubes, these are, for the greater part of their course, cartilaginous; but at a certain distance from the surface, the cartilaginous rings are lost, and the canal is continued by the lining membrane alone. Having arrived about one eighth of an inch from the surface, this membrane also becomes deficient, and the air-passages then appear to be formed solely by the air-cells between which they pass. They are then termed intercellular passages.

The membrane of the bronchial tubes is supplied by a distinct set of blood-vessels, which at the abrupt termination of the membrane anastomose with those of the air-cells. The intercellular passages are at first circular, and, like the tubes of which they are a continuation, do not communicate with many air-cells; the communication, however, is very free towards the peripheral destination of the canal. A remarkable anatomical fact, announced by Mr. Rainey, is, that the mucous lining of the bronchial tube does not, as is generally supposed, continue along the intercellular spaces, and into the air-cells; a circumstance which sufficiently explains the different effect of inflammation of the tubes and of the air-cells; the latter, which are lined by fibro-cellular tissue, being accompanied by the deposition of fibrin instead of mucus.

2d. The air-cells open upon the bronchial tubes and intercellular passages by well-defined circular apertures, surrounded by a ring of fibres and a dense plexus of capillary vessels. These vessels, in the lungs of mammals, run between two layers of the pulmonary membrane, so that there is but one vascular network between two given cells; and the blood is aerated on each side. In the lung of the frog, serpent, &c., there are two plexuses between any two cells. Mr. Rainey concludes, in opposition to Dr. Addison (of Malvern), that the fetus, prior to the act of respiration, possesses fully formed air-cells, which are also surrounded by capillary plexuses.†

—M. Alquié demonstrates the disposition of the bronchial ramifications by the aid of metallic injections, and finds that the air-passages progressively divide in the pulmonary tissue, forming canals, from the sides of which lesser canals are detached, and this division is minuter in man than in lower animals; that the

* Medical Gazette, March, April, May 1843.

† Prov. Medical and Surgical Journal, Jan. 1843.

number of bronchial ramifications have no relation to that of the vesicles (renflements) which terminate them; these vesicles are about the fifth of a millimetre in their greatest dimensions, of an irregular oval form, and flattened where they impinge upon other vesicles. These vesicles are sometimes single, and then fixed laterally on the ramifications; more frequently, they are found to the number of three, five, or nine together, developed on the extremity of the pulmonary ramusculæ; they have proper coats, are in many points isolated, and communicate with those of most of the lobules.*

32. *On the Changes which take place in the Lungs after Division of the Pneumogastric Nerves.*—It is well known that after section of the vagus nerves in the neck of an animal, death frequently takes place at an interval of a few days. In these cases, the lungs are found to have undergone alterations, characterized by congestion, and the effusion of a large quantity of frothy sanguinolent serum into the bronchi; which lesions have been ascribed by authors to the paralysis of the glottis consequent on the section of its nerve (the recurrent), which induces respiratory obstruction, either directly, or by permitting of the passage of food and other matters into the trachea. Dr. Schiff has performed a variety of experiments which disprove these ideas. By cutting in some animals the recurrences, and in others the pulmonary branches of the vagus, he has convinced himself that the section of the latter causes congestion, with tumefaction of the bronchial mucous membrane; while that of the former only produces narrowing and paralysis of the glottis, without any pulmonary changes. The lesions of the lungs are likewise unaffected by the performance of tracheotomy, and by the section of the œsophagus in the neck (in dogs). He therefore concludes that the state of the lungs is dependent on the integrity of the pulmonary portion only of the nerve. Section of the nerve on one side produced a slighter amount of pulmonary lesion, but never confined to the lung of one side; a circumstance which M. Schiff accounts for by considering the anastomoses in the pulmonary plexus of nerves.†

33. *On the Chemical Changes of Respiration.*—A new and very extended series of experiments on the subject has been instituted by MM. Regnault and Reiset, who give minute details of the several steps of the process employed by them, the precautions taken, and the kind of apparatus used. Their investigations, which are still in progress, seem to be performed with much care and exactness, and their results may probably be fully relied on. The most important of these results is, that nitrogen is invariably exhaled through the lungs, though the quantity is small, rarely exceeding $\frac{1}{100}$ th of the amount of oxygen consumed. Hydrogen, and certain carburetted gases, usually present themselves in small quantity. As an illustration of the changes which Regnault and Reiset found to occur in the respired air, the following results of an experiment, in which a young dog was confined in the apparatus for 24½ hours, may be quoted:—

	Grammes.
Oxygen consumed	182.288
Carbonic acid produced	185.961
Oxygen contained in the carbonic acid	135.244
Nitrogen disengaged	0.1820

If the quantity of oxygen consumed be represented at 100, then the results may be thus stated:—

Oxygen consumed	100
Oxygen in the carbonic acid	74.191
Oxygen otherwise disposed of	25.809
Nitrogen disengaged	0.0549
Average quantity of oxygen consumed in an hour	7.44½

* Archives Générales, Dec. 1847.

† Archives für Physiologisch Heilkunde; Gazette Médicale, Dec. 2, 1848.

‡ London Medical Gazette, Oct. 1848, from Comptes Rendus.

34. *Exhalation of Carbonic Acid in Health and Disease.*—The following deductions on this subject are given in a memoir by M. Hervier:—

In a healthy state.—1st. The exhalation of carbonic acid varies from hour to hour, having two maxima, at nine in the morning and eleven at night, and two minima, at three in the afternoon and five in the morning.

2d. The exhalation of carbonic acid is inversely to the variations of temperature.

3d. During digestion less carbon is consumed.

4th. The use of animal food diminishes, and a feculent diet increases, carbonic exhalation.

5th. In hard running, the expired air ceases to contain carbonic acid.

6th. Inspiration of ether and chloroform produces the same effect, as does also the use of alcoholic drinks.

7th. During sleep less carbonic acid is expired than in the waking state.

8th. The air expired by infants contains a larger proportion of carbonic acid than that breathed by adults.

In a pathological state.—1st. In well-defined phlegmasiæ, in general, the exhalation of carbonic acid is increased.

2d. In inflammations of the organs of circulation and respiration, however, or in such as tend to impede the action of these organs, this rule is reversed.

3d. In the paroxysms of intermittent fever there is an increase of carbonic acid, especially in the last stage.

4th. In diseases not accompanied by fever or marasmus, such as chlorosis, diabetes, nervous affections, there is no variation in the expiration of carbonic acid.

5th. In the exanthemata, including erysipelas and erythema, there is diminished exhalation of carbonic acid.

6th. The same is the case during suppurative process; and also in scurvy, purpura, anæmia, and anasarca.

7th. In the last stage of scrofulous, syphilitic, cancerous cachexiæ, and in pulmonary consumption, the exhalation of carbon is likewise diminished.

8th. The same thing takes place in typhoid fever, dysentery, and chronic diarrhœa.

In addition to these conclusions, the author finds that the temperature of the expired air does not vary sensibly in the state of health, but that in disease it varies with the number of respirations.*

§ V.—*Anatomy and Physiology of the Digestive Organs.*

35. *Liver, Minute Anatomy of.*—M. Natalis Guillot has lately entered into an elaborate investigation of the intimate structure of the liver. He describes the liver to consist, as a whole, of a mass inclosed in a fold of peritoneum, traversed in all directions by sanguiferous and excretory vessels, and by a double series of most delicate canals. The matter composing the liver is seen under the microscope to consist of little yellowish, somewhat transparent particles, pressed against each other, and appearing often to inclose small (sometimes vibrating) molecules; their surface is granular (most anatomists have considered them to be cells, but a membrane around them has never been demonstrated, and by no efforts could M. Guillot discover its existence). They sometimes contain nuclei, but these M. Guillot never succeeded in isolating. The observation of Henle, that they contain bile, is most inexact; we cannot even prove that they contain a liquid; their size is 0.01 millim. to 0.04 millim. In the liver of fishes, the oil is so abundant that, unless this is drained away, these particles cannot be observed. They are readily seen in the tortoise, lizard, and frog. In birds and mammals they present similar characters. M. Guillot never saw them arranged in regular series, as described by Henle.

When the liver has been deprived of its blood, these particles come so closely in contact that no passage seems left for the fluids; but when the blood is retained, they present a totally different appearance. The blood, then, is seen

* Gazette des Hôpitaux, Feb. 20, 1849.

in the canals, where it circulates during life, and, where its globules are, there the particles do not touch. These canals (the sanguiferous canals) appear when the liver is injected with coloured water, and disappear as it flows away, the particles again falling into close contact. They are very numerous, and by their anastomoses the mass of the liver is divided into an infinite number of isolated portions. The islets thus formed are composed of a variable number of particles; they may be distinguished in all vertebrata in every part of the liver, deep or superficial. From the fishes up to man, their characters are generally uniform; they are larger in fishes and reptiles than in birds and mammals, and are tolerably regular in form and volume. These islets are themselves subdivided by much smaller canals, which are probably destined for the elaboration of bile. They approach or recede from each other, according to the degree of repletion of the sanguiferous and biliary canals; when the sanguiferous canals, which form their boundaries, were empty, those boundaries could no longer be distinguished, and the liver then appeared to consist of a mass, where only the contiguity of its constituent particles could be observed.

The divisions of the bloodvessels in mammalia contribute to the formation of the well-known lobules, which do not exist in fishes, reptiles, and birds. M. Guillot has never been able to distinguish a membrane, the pretended prolongation of Glisson's capsule, around the lobules; he believes that the cellular tissue around the afferent vessels gradually disappears, as their branches subdivide. He could not observe the anastomosis of the hepatic artery with the vena porta, as described by Kiernan. The ramifications of the hepatic artery seemed to run parallel to the branches of the biliary canals and portal venules, where they form a network around the lobules, sending off branches in every direction, and supplying several lobules. It is in consequence of the excessive fineness of these ultimate divisions of the hepatic artery, that it is very difficult to introduce a liquid into the sanguiferous canals.

When the portal venules have reached the lobules, they terminate, like the arteries, in the sanguiferous canals, which are interposed between them and the beginning of the hepatic venules.

In all vertebrated animals these sanguiferous canals are the centres, towards which the last division of the hepatic artery and vena porta pass, and from which the hepatic vein takes its origin. The different orders of vessels have no other communications than through these canals. Where our instruments can no longer distinguish coats to the vessels, there do these canals commence; they belong not to one set of vessels more than another; they may be injected either through the vena porta or vena hepatica, and also through the hepatic artery, but with more difficulty. M. Guillot counted one hundred canals in two square millimetres. His researches respecting the origin of the hepatic venules confirm those of Kiernan. They are first seen in the centre of the lobules; in some animals, but one primordial branch is seen situated in their axes. In man, the axis of the lobule is traversed by these radicles.

The study of the radicles of the bile-ducts is most difficult; their characters are nearly alike in all classes of animals. They form, in their first divisions, anastomoses around the vena porta and hepatic artery, and a complete network of vessels around the lobules, which vessels open into sinuses also surrounding the lobules, and from the union of these sinuses the larger ducts spring. They terminate by forming regular anastomoses of equal-sized canals throughout the lobules, and have no membranous walls. These canals run between the particles which form the islets, and, just as we have seen the islets surrounded by the blood canals, so do we find the particles, of which these islets are formed, surrounded by these lesser biliary canals. It is impossible to ascertain how the lymphatics commence in the liver. Thus it appears that the livers of all vertebrata are composed alike, consisting of oval particles, generally regularly placed; that through these particles circulate blood, bile, and lymph; that the blood passes into the blood canals (which have no coats); and that the blood from the vena porta and hepatic artery reach the hepatic vein only through these canals. The anastomoses of these canals form little islets among the particles. The biliary canals are hollowed out among the particles which form the islets,

and they appear to be the common origin of the excretory ducts and the lymphatic vessels, an injection passing readily from one to the other.*

36. *Liver, Nerves of.*—Dr. C. H. Jones says that the liver is amply supplied by nerves from the left pneumogastric semilunar ganglion and the right phrenic, and these are usually described as entering by the transverse fissure. Passing into the portal canals, these nerves run in the areolar tissue which surrounds the vessels, and may be followed for some distance along the canals. By a minute dissection and the aid of the microscope, a large number of them are seen distributed on the coats of the portal veins, and forming plexuses across them; a still greater supply may be traced to the branches of the hepatic artery, and appear distributed in a like manner. These nerves being here so abundant, Dr. Jones thinks it possible that the mode of termination of organic nerves might be ascertained. It appeared to him that the most minute branches, after running a long course on the coats of the vessel, either unite with a similar filament or enter a neighbouring trunk, but sometimes the filament is lost while tracing it. The nerves do not appear to blend with the fibrous or arterial tissues; and they seem in their long course to taper away, and that, not by giving off filaments, but *per se*. The hepatic veins show a much smaller supply of organic nerves, and so also do the hepatic ducts. The nerves do not enter the lobules; their structure is of fibres, termed “gelatinous” by Henle, mingled with a few cerebro-spinal tubules. Often, only a single tubular fibre is seen in a nerve of some magnitude; and in such case it is hard to say what becomes of the tubule—it cannot form a loop. Dr. Jones thinks it may lose its investment, and become confounded with the surrounding substance. The organic nerves, he describes as bands of finely striated or granular material, in which elongated nuclei are set at intervals; and it is certain that this basis-substance tends to division in a longitudinal direction. As the nerves do not penetrate the parenchyma of the liver, it may be presumed that the function of the hepatic cells is discharged independent of nervous influence.†

37. *The Liver of Insects*, according to Dr. Leidy, consists of whitish, filiform, and tortuous tubes, closely placed against the alimentary tube, generally opening into it by separate orifices, frequently after joining to form short trunks. When few in number, they are sometimes three or four times the length of the intestinal canal. They are found to consist of a clear, transparent, amorphous basement membrane, the inner surface of which is covered with the secreting cells. These cells are round, oval, or nearly cylindrical; their average size, .09 millim. The contents are of a white, yellowish, or brownish colour, and consist of finely granulated matter, numerous oil-globules, a granular nucleus, with a transparent nucleolus. The cells increase in size as they advance from the extremities of the tubes, and become filled with granular matter, which obscures their nuclei. These nuclei are central and of uniform size, the nucleolus always transparent, .006 millim. in size. The biliary tubes are bathed in blood, or the nutritive fluid. The cæca of the liver of the crustacea and mollusca present very similar appearances.

In the liver of vertebrata the lobules lie in all directions, not regularly arranged side by side, as may be seen by section of an injected portion. Dr. Leidy describes them as composed of an intertexture of biliary tubes, and of delicate anastomoses of bloodvessels ramifying in the interspaces of the network, the whole being intimately connected by white and yellow elastic tissue. In structure, the biliary tubes resemble those of the invertebrata, except in their mode of arrangement, the free tubes in the lower animals in vertebrata anastomosing, or forming an intertexture. The tubules are generally about twice the diameter of the secreting cells, and those of one lobule distinct from those of the surrounding lobules. The secreting cells are angular or polygonal, and line the interior of the tubules; in their appearance they resemble the cells in the cæca of the lower animals. The granular matter in them gives the colour to the cell, and often obscures the nucleus. The commencements of the hepatic ducts, and the interlobular trunks, freely anastomose, forming trunks, which

* *Annal. des Scien. Nat.*, March 1848.

† *Medical Gazette*, July 14, 1848.

run at right angles to the surface of the liver. The hepatic artery and vena porta form a network around the lobules, but Dr. Leidy could not ascertain if they here anastomosed; they both send branches, which enter the lobules at right angles, and then freely communicate between the interspaces of the biliary tubes, converging towards the centre of the lobule. The hepatic artery, he considers, is appropriated to the nutrition of the tissues of the liver; and the vena porta supplies the cells which secrete the bile.*

38. *Gastric Juice, Composition and Functions of.*—According to M. Mialhe, the gastric juice is composed of two principal agents, an acid and a ferment. The use of the acid is to render soluble and prepare the different matters; the ferment, the pepsin, alone causes the transformation of the albuminous matters; while the diastase, which is furnished by the salivary glands, and is quite distinct from the pepsin, effects the transformation of the amylaceous matters. The ultimate products of these transformations are albuminose and glucose, substances which alone are fitted for digestion. The first stage of digestion consists in the disintegration of the food, and its mixture with fluid; the second, in the production of chyme and dextrine; the third, in the transformation of these two products into albuminose and glucose—substances very soluble, and proper for assimilation and nutrition. Hence digestion would seem to be a simple solution of alimentary bodies. M. Mialhe concludes from analogy, that the solution of fatty matters is likewise effected by a ferment.

Bouchardat and Sandras fed dogs with a mixed diet, and shortly afterwards divided their pneumogastric nerves. On examining the bodies of the dogs, they found that the digestion of the albumen and fibrin, which is effected in the stomach, was arrested; but that the amylaceous and fatty matters, which are digested in the intestines, were dissolved and absorbed. No chyme was found in the stomach, but the starchy principles, which passed into the intestines, were there converted into glucose, and the fatty matters absorbed by the lacteals.†

39. *Alcoholic Fluids, Digestion of.*—The last-mentioned authors conclude, from their experiments, that alcohol is absorbed by the veins, and not by the lacteals; and that, with exception of the small quantity which escapes by the lungs, the alcohol is converted into carbonic acid and water, either directly or by passing through the intermediate stage of acetic acid.‡

40. *The Cause of the Inability of the Horse to Vomit.*—The cause why the horse does not vomit has never been clearly explained. Lamorier attributed the fact to the deep position of the stomach, and to a valve which he supposed existed at the superior orifice of the stomach. Bertin refuted these errors, and showed the real causes: viz., the existence of a sphincter at the orifice of the stomach, and the very oblique insertion of the œsophagus into this viscus. In the single experiment of Lamorier, in which water issued from the stomach on pressure, the stomach must have been diseased; and, in fact, wherever a horse is found to vomit, the stomach is invariably diseased. In twenty experiments which Flourens performed, he only once found water to issue from the œsophageal orifice (even when the weight of two men were placed upon the stomach filled with water), and in this instance the mucous membrane was found pierced by deep holes, and covered by worms. There are three muscular layers in the stomach of the horse. The *middle* muscle commences at the superior orifice, and reaches to the lower, and is formed of longitudinal and circular fibres. The *external* is the continuation of the longitudinal fibres of the œsophagus. The *internal* is the most remarkable and important: it forms at first a large, fleshy bundle surrounding the superior half of the œsophageal orifice, and lower down passes off in two branches, which form a curious interlacement with the other muscles of the stomach, and this muscle is the sphincter described by Bertin. Flourens draws these conclusions from his own experiments: 1st, that the obstacle is situated in the superior orifice of the stomach; 2d, that it exists only in this orifice; and 3d, that it depends

* American Journal of Medical Science, Jan. 1848.

† Comptes Rendus, Jan. 1849.

‡ Annal. de Chim. et de Phys., Dec. 1847.

on the sphincter described, and on the oblique insertion of the œsophagus into the stomach, thus confirming Bertin's views.*

41. *Uses of the Pancreatic Fluid.*—Dr. Bernard has performed a series of experiments upon the uses of the pancreatic juice, from which he has described results of great importance. He describes the *healthy* fluid as colourless, limpid, and viscous, flowing slowly out in large pearly or syrupy drops, and frothing up on agitation. It possesses no peculiar odour, and imparts to the tongue a saline taste, like that of the serum of the blood. It is invariably alkaline. Exposed to heat, it coagulates into a very white, concrete matter, as completely as does the white of an egg—not a drop of free liquid remaining. It is also precipitated by the mineral acids. Alkalies redissolve the coagulated matter. We may allow, with Magendie, Tiedemann, and Gmelin, that this fluid possesses the characters of albumen, but, in a physiological point of view, there is no relation between it and albuminous fluids; and, indeed, chemical distinctions between the two exist. Thus, when the organic matter of the pancreatic juice has been coagulated by alcohol, and dried, it may be easily and entirely redissolved in water, to which it imparts the viscosity and physiological properties of the pancreatic juice.

Morbid pancreatic juice is described as generally colourless, sometimes opalescent, and at others reddish, possessing no viscosity, and producing a nauseous, saline taste. It is less dense, and coagulates neither by heat nor acids. The transformation of the normal into the morbid juice is so gradual, that various intermediate shades exist, as indicated by the quantity of coagulable matter, upon the amount of which the activity of the juice depends.

No fluid of the economy is so liable to alteration. Exposed to a low temperature (42° to 52°), it may be preserved for several days, increasing in viscosity, and acquiring the condition of a light jelly. Exposed to from 104° to 112° for some hours, its properties, with the exception of the alkaline reaction, become entirely altered. During the heats of summer, or in stormy weather, such changes may be effected in a few moments. The deposition which takes place furnishes to the microscope a peculiar silky aspect, and a large quantity of needle-shaped crystals, resembling those of margaric or margaric acid. These changes in the composition of the fluid explain the discrepancies of authors in respect to its quantity of albumen.

The special action of the pancreatic juice on neutral fatty bodies out of the body.—Exposure of fatty bodies to the juice at once produces a complete emulsion, and all fatty substances are resolved into glycerine and fatty acid, and in the case of butter, butyric acid. Parallel experiments instituted with other fluids, as bile, saliva, gastric juice, serum of the blood, produce no such effects on fatty bodies. These experiments have been frequently verified in the presence of distinguished men, as Magendie, Berard, Andral, &c. If a *morbid* or *altered* juice be employed, it exerts no action, soon separating from the fatty matter, without modifying it. Partial changes are attended with imperfect results.

The pancreatic fluid is indispensable for the absorption of fatty matters and the formation of chyle.—The chyloferous vessels are only found to contain a white, milky, homogeneous fluid, on condition of their having absorbed fatty matters in the intestine; so that a limpid, transparent chyle (improperly called vegetable chyle) is a chyle without fatty matters; and a white, homogeneous chyle (improperly called animal) is a chyle containing fatty matters, emulsified and modified. That this is effected by the agency of the pancreatic juice may be demonstrated. If dogs are killed during digestion, oil will be found unaltered, until it comes in contact with this fluid; and if the pancreatic ducts be tied, all alteration is prevented. In the *rabbit*, the pancreatic duct opens into the intestine very low down, fourteen inches below the choledochus; and if fatty matters be introduced into its stomach, and the animal be killed in three or four hours, they will be found to become emulsified only at that low distance down, and only after then it is that the white absorbents are seen.

If it be asked, how it happens that a fact now so easy to demonstrate, that it is the pancreatic fluid and not the bile which emulsifies fatty matters, has

* *Annales des Sciences Natur.*, Sept. 1848.

been overlooked, the author is disposed to attribute it in a great measure to the prevalent belief in the salivary character of the pancreatic fluid having misled inquirers. Brodie's experiments on *cats*, showing that the chyle was rendered limpid by ligature of the ductus communis choledochus, were not verified by those of Magendie on *dogs*, who found the fluid milky and homogeneous. But in the *cat*, the pancreatic duct anastomoses with the choledochus before opening into the intestine, so that Brodie, unaware of the importance of the pancreatic juice, might easily have tied both vessels; while in the *dog*, the choledochus is completely isolated from the two pancreatic ducts of that animal.*

This important memoir is translated entire in the "Provincial Medical Journal" of March 31, 1849.

42. *On the Intestinal Mucous Membrane.*—Dr. C. H. Jones directs attention to a layer of granular matter, enveloping nuclei, which lies immediately beneath the mucous membrane of the intestines, and in contact with the basement membrane. This granular layer or "*substratum*" of the mucous tissue, which is well seen in the colon, forms, together with the nuclei above mentioned, a great part of each villus, filling up the whole space between the limitary membrane and the lacteal and capillary vessels. This substratum is the seat of the black discoloration, which is not uncommon in the intestinal mucous membrane; and is also the part principally affected in dysentery, in which it is often left bare by the disappearance of the mucous membrane, and is infiltrated by a plasma passing into imperfect cellular forms.

In the period of inactivity, the villi are semi-transparent; when absorption is going on, however, they are opaque, from the presence of oily matter in the form of globules and granules of different sizes. The larger of these Dr. Jones believes to correspond with the absorbing cells described by Professor Goodsir, as formed during the process of absorption, and which are very inconstant in their number and size, being sometimes entirely absent in villi which are manifestly in a state of activity. The opacity caused by the absorption of the chyle may be also observed frequently to pervade the whole length of the villus, thus indicating that this function is carried on in every part, although probably more active, as described by Mr. Goodsir, at the summit. The active agents of absorption are believed by the author to be the nuclei distributed among the granular matter of the villus, and which, though obscured during the process by the presence of milky chyle, are constantly visible in the inactive and semi-transparent villus. "It is well known now, that the formation of perfect cells is by no means to be regarded as essential to the exercise of the energy of nuclei, those fundamental and efficient parts of almost all cell formations. It is also known that the formation of perfect cells indicates a certain degree of permanence in the structure so formed, and that their contents are destined to be retained for a period, to undergo some elaborating change, not to be immediately yielded up; while, on the other hand, the non-completion of cells indicates that the process is of a rapid character, and not intended to produce any considerable change in the material acted on. Remembering these facts (of the general truth of which there cannot be much doubt), it will be admitted, perhaps, as highly probable, that the nuclear corpuscles of the granular basis of the villi exert an attraction on the chyme by which they are surrounded, and draw it continually into the substance of the villus, from whence it is rapidly conveyed away by the efferent lacteal."

The author agrees with Professor Weber, that the shedding of their epithelium is not *necessary* to enable the villi to perform their functions. He has seen the villi clad with their epithelium when the lacteals were filled with chyle: nevertheless, it is certainly common to find them divested of this covering when absorption is most actively present. Dr. Jones corroborates the observation of M. Lacaze de Mijoux, that the villi are subject to retraction and thickening, under the influence of circumstances which are not well understood, as they do not appear to be possessed of any contractile tissue as an element of their structure, and "the distension of their capillary plexus with blood would rather have a contrary effect."

* Archives Générales, tom. xiv.

Dr. Jones has examined with great care the solitary and aggregated glands of the intestine in the human subject, as well as in the rabbit and dog. The patches he considers, like most other anatomists, to be merely aggregations of solitary glands. The depressions in the aggregated glands do not correspond to any distinct open mouths of follicles, but seem to be produced by the absence of villi from those parts of the mucous surface. The structure of the solitary and aggregated glands is very similar; they are situated in the substratum, below the basement membrane, and covered by a plexus of capillary vessels. On making a vertical section of one of the solitary glands of the human intestine, it is seen by the microscope to consist of masses of nuclear granules, "which, for the most part, are solid, not including a distinct cavity, and not contained in any definite follicular envelop; they lie at various depths; the larger are in contact with the surface; the mucous membrane, with its rows of vertical follicles, having disappeared above them; the smaller lie unquestionably beneath the mucous surface, and, I feel quite assured, have no orifice of communication by which their contents might escape into the intestinal cavity; even pretty strong pressure does not evacuate the contents of the smaller masses, while it sometimes produces this effect on the larger, which more closely adjoin the surface. The form of these masses varies a good deal; often they are considerably flattened, usually, however, more or less globular—their upper portion being always convex, and tending to approach the surface; when it reaches this, the mass appears to become more or less completely evacuated, and a shallow depression may then result; this, however, is but rarely seen. In the cæcum of the dog, the solitary glands are more or less prominent on the surface, and exhibit a very distinct appearance of a central orifice. When macerated in acetic acid, they appear as circular spots about the size of a large pin's head, rather flattened, and with perfectly defined margins. In vertical sections through the central orifice the mucous membrane is seen to dip down, and become gradually thinner; sometimes it appears to be perforated at the bottom of the depression; at others, is continued plainly across. The gland itself consists of a solid mass of nuclear corpuscles, with a little granular matter. It is contained in a kind of capsule, which seems to belong to the submucous tissue; at the bottom of the depression, the mass comes in contact with the thin mucous membrane, if it exists, or with the orifice, if it be absent; but can rarely be made to escape, even by strong pressure. It does not appear that these glands can be regarded as true follicles; their capsule is not continuous with the basement membrane: their contents are not epithelial particles lining the wall, but a solid mass of nuclei; and, lastly, the existence of an orifice in them does not seem constant, whether evidence of it be sought for by minute examination, or by observing the effect of pressure upon their mass. In the rabbit, the long and wide appendix cæci has its mucous lining greatly thickened by a layer of masses consisting of nuclear granules; these are of elongated conical form; their apices reach to the surface, and lie in fossulæ formed by septal folds of mucous membrane; over their surface a capillary plexus is spread, supplied by the long vessels, which run up from below; they appear to be quite solid, and their apex is certainly not perforated, but in some instances appears to be invested by a distinct, homogeneous membrane. In all these cases, it is worthy of remark that the masses of nuclear granules are effected in a peculiar manner by acetic acid; instead of rendering them transparent, it makes them much more opaque, so that their outlines become extremely distinct even to the naked eye. This circumstance, as well as the marked difference between their contents and the epithelium of any glands or follicles, is very characteristic of them, and tends to prove that they are not mere follicular involutions of the mucous surface, but superadded structures designed for some special but unknown function."

The aggregated and solitary glands would thus appear to be, according to Dr. Jones' observations, an increased development, in particular localities, of the nuclei and granular matter which he described as forming the general substratum of the mucous membrane. In the small intestine, where he says there are in health few or no solitary glands, such as exist in the colon, the bodies which, in the diseased state, are described as such are apparently adventitious structures, and are composed of nuclei and granules similar to those

of the gland, but not inclosed in any capsule. The author believes these to be analogous to pimples of the skin, and, like them, capable of disappearing by absorption.*

§ VI.—*Kidneys, and their Secretions.*

43. *Kidney, Minute Anatomy of.*—Dr. Gerlach considers that the connection of the tubuli uriniferi with the Malpighian capsules, as described by Mr. Bowman, is now placed beyond all doubt, notwithstanding that so many authorities still oppose this view. Dr. Gerlach, out of three hundred attempts, only succeeded six times in injecting the capsulas from the ureter, and then only in the sheep, the frog, and the horse—proof enough of the difficulty of this operation. Bowman never succeeded once; his injections were made from the artery, but they convincingly show the reality of the communication. Van der Kolk showed Dr. Gerlach the kidneys of a crocodile, injected from the ureters; in these animals, the tubuli and the Malpighian capsules are unusually large, and the filled capsules could be seen by the naked eye. Henle has been lately convinced by Dr. Gerlach's preparations, that the communication exists, though he has published opinions to the contrary, relying on Hyrtl and Bidder's observations.†

44. *Suprarenal Capsules.*—Until recently, anatomists held very vague notions concerning the nature of vascular glands—whether they contained any true glandular elements was scarcely known—and the function attributed to them, of exercising some influence on the composition of the blood, was solely in consequence of the large quantity of that fluid which they contained. Recent microscopic observations have demonstrated that these glands contain the elements of a true glandular structure, viz. a membrane, a network of vessels, cells, and cell-nuclei; the only difference between vascular and true glands consists in this, that the former have no ducts, and that their secretions return again into the blood by endosmosis. Dr. Ecker gives a very minute anatomical description of the suprarenal capsules; he attributes to them, as to the other vascular glands, the function of secretion, because, as he demonstrates, they contain all the elements of true glandular structures, consisting principally of closed gland-vesicles, or sacculi, which are surrounded by a network of blood-vessels, and present the closest resemblance to those of most true glands with temporary ducts, e. g. the glands of the intestinal mucous membrane; because these vesicles, as in true glands, consist of a finely granular substance, of nuclei, and of cells; and because these organs receive a larger quantity of blood than is necessary for the mere nutrition of their textures. It seems certain that the secretion of these glands must pass again into the blood, for there is no other outlet for its escape; and Dr. Ecker believes that it passes directly into the blood, and not through the medium of the lymphatics, for he has never been able to ascertain the presence of lymphatics in these glands. He considers that the structure of the suprarenal capsules indicates that they serve some general, not a special, office in the economy; and that this office is connected with nutrition, for their secretions are rich in protein compounds. The functions, which have been attributed to the different vascular glands, are very unsatisfactory: their neighbourhood to important organs, has led observers erroneously to connect them in office with those organs; Dr. Simon, for instance, represents the thymus gland as a storehouse of fuel for respiration in early youth, but its secretion is far too rich in protein compounds. Dr. Ecker is of opinion, that all vascular glands discharge the same office, viz. the formation of a fluid from the blood, rich in protein and fat, which fluid is again returned to the blood, and serves for nutrition; they hence become so many storehouses, where the too abundant materials of nutrition, which the blood at any one time may contain, are laid up, and in due season returned into the circulation, as the wants of the system may demand.‡

45. *Influence of the Nervous System on the Urinary Secretion.*—M. Bernard

* Medical Gazette, Nov. 17, and Edin. Monthly Journal, Dec. 1848.

† Müller's Archiv., p. 102, 1848.

‡ Medical Gazette, vol. i. pp. 830, 874.

has recently made an interesting and unexpected discovery in this particular. It consists in the fact, that the urine may be modified and made to contain sugar by puncturing a certain part of the floor of the fourth ventricle. The change takes place in less than two hours after the operation. A repetition of the experiments has demonstrated that the portion which it is necessary to wound, in order to produce this curious effect, is a point corresponding with the origin of the pneumogastric nerves.*

§ VII.—*Absorbents and Lacteals.*

46. *Absorbent Vessels, Termination of.*—It has long been a disputed question, whether absorbent vessels open into veins elsewhere than at the point where the subclavian and jugular veins unite. For many years, Dr Nuhn has observed, when injecting the lymphatics, that some of the quicksilver invariably found its way into branches of the veins which pass out of the glands; and there is nothing by which we can disprove the assertion, that this takes place through rupture of the vessels within the gland. Dr. Nuhn's observations were confined to the relation of the absorbent vessels with the veins *external* to the lymphatic glands; he has often distinctly observed large absorbents open into the large veins of the abdomen; and he once saw a large branch from the lumbar lymphatics pass into the renal vein, and that it was truly a lymphatic vessel was evident from its anatomical characters. In another case, two good-sized branches passed from the right iliac lymphatics, and opened into the vena cava inferior. There could be no deception here as to their being veins; we must, therefore, no longer consider the thoracic duct as the common trunk of the lymphatics of the lower half of the body; and there are many reasons why this should not be so.†

47. *The Lymphatics of the Tongue* are very numerous—they cover the greater part of its mucous surface. Their mode of origin is the same as in other parts: from the dorsal network which they form, trunks arise, which pass, some forwards, some backwards; the posterior trunks are submucous, they pass before the epiglottis, through the superior constrictor, and open into glands on the side of the middle of the neck; the anterior trunks pass vertically downwards, through the muscular tissue of the tongue, and ramify in a gland near the os hyoides. The branches from the lateral network pass by the stylo-glossus to glands in front of the jugular vein.‡

48. *Lacteals.*—In a case where the lacteals were filled with chyle, E. H. Weber observed that the capillary network of chyle-vessels existed in the spaces between the intestinal villi, as well as within the villi themselves. On the walls of Lieberkühn follicles, he could not observe any chyle vessels. Hence, he concludes that absorption of chyle goes on, not only in the villi, but also in the spaces of mucous membrane between them. Physiologists, of late, have considered that, during absorption, the epithelium falls off; but Weber found lacteals filled with chyle, although their mucous membrane was still covered by epithelium. He found, also, that the cells of cylinder epithelium undergo changes in figure and colour, while absorption is going on; that in dogs and frogs they swell up, and contain chyle-corpuscles; and that, in man, the epithelium has, on its reversed side, a second layer of cells, which are not cylinder- or prism-shaped, but round, and remarkable, some as being filled with an opaque, white, and some with a transparent, oily fluid, so that different cells seem to have the power of absorbing fluids of different qualities.§

Professor Oesterlen asserts that he has fed animals on food mixed with finely-powdered charcoal, and has afterwards, by aid of the microscope, discovered the charcoal's presence in the blood of the mesenteric veins, the vena porta, the liver, lungs, &c., the surface of the intestinal canal being perfectly healthy. He has, in like manner, seen particles of Prussian blue in the blood. M. Mialhe

* Archives Générales, Mai 1849.

† Müller's Archiv., p. 173, 1848.

‡ M. Sappey, Archives Générales, tom. xvi. p. 1.

§ Müller's Archiv., p. 400, 1847.

has repeated these experiments with totally different results, and he positively denies that any particle of charcoal can pass into the uninjured vascular system. On the contrary, Eberhard* confirms Oesterlen's views. He rubbed mercury on the left side of a rabbit's belly, and found globules of that substance in a vein of the skin of the same side, but not of the opposite side. Charcoal also, and sulphur, which he had given to a dog, he found in the chyle, the lymphatics, the vessels of the mesentery, and elsewhere; and he supposes that globules of fat, and even the ova of entoza, may thus pass directly into the blood.

49. *Lymphatics*.—Dr. G. E. Day says, that the researches of Herbst have shown that the absorbing power of the lymphatics is by no means so limited as has been commonly supposed, but that they can convey almost all soluble substances into the system; this is proved for alkaline and metallic salts, starch, colouring, and odorous matters. There is, however, one class of bodies, those poisons which act on the brain and spinal marrow, and usually included among narcotics, which most decisive experiments have shown, cannot be carried by the lymphatics into the system. The fact has been long observed, but as yet no sufficient explanation of the anomaly has been offered. Dr. Day quotes experiments to show that, when the circulation through a part has been interrupted, a narcotic poison introduced does not exert its specific action; now, this must happen, either because the poison does not enter the lymphatics, or, having entered, is rendered inert in them, or cannot be conveyed by them. Dr. Day performed experiments to decide this point, and he concludes from them, that strychnia and prussic acid cannot be conveyed into the system by the lymphatics, and that the non-absorption of these poisons is due to a specific action exerted by them on the coats of the lymphatics, by which their irritability is destroyed, and they are rendered incapable of transmitting their contents.†

50. *Absorbents of the Lungs*.—Jarjavay has investigated minutely the absorbent vessels of the lungs and heart. He found that the lymphatics of the heart open into glands surrounding the left bronchus. The lymph of the upper and lower parts of the lungs is poured into the thoracic duct by two distinct vessels. The lymphatics of the left lung open constantly into the thoracic duct; those of the right lung sometimes anastomose with the large lymphatics of the right side of the body. Once he saw them run behind the aorta into the glands, in which the vessels of the left lung and heart meet, and from whence they pass into the thoracic duct. The calibre of these vessels in the lungs he found varied much; affected in part by the nature of the death and duration of the disease, it was lessened by long fasting; greater in chronic diseases than in acute. In pleurisy, the vessels were filled with a rosy-coloured fluid, or with a plastic mass, like the exudation of the pleura.‡

§ VIII.—*The Reproductive System.*

51. *Testicle, Descent of*.—The hypothesis that the gubernaculum testis arises from the base of the scrotum, and draws the testicle down, is absurd. The scrotum at first consists of the cutis and a fine layer of fascia superficialis, and within this there is a mass of soft, gelatinous tissue which completely fills the sac; merely a few fibrous threads can be seen by the microscope, and from these the dartos is formed. Previous even to the existence of the Wolffian bodies, a peculiar, ligamentous body can be observed, reaching from the lower end of the testicle to the inguinal canal, and surrounded by serous and cellular membranes. Before it enters the canal, it consists of an elastic, pulpy, grayish mass, in which the microscope shows fibres and cellular tissue, but no fat; after its entrance into the canal, no cellular or muscular tissues, which are generally represented as spreading out over the scrotum, can be observed, but a long, roundish, little sac is forced down before it, through the external ring. This consists of three layers; the first could be followed to the external ring, and

* Canstatt's Journal, Band i. p. 27, 1848.

† Prov. Med. and Surg. Journal, May 1848.

‡ Canstatt and Eisenmann's Journal, Band i. p. 27, 1848.

corresponded with the fascia superficialis; the second contains the muscular fibres, which arise in the canal, and the third consists of cellular and fibrous tissues. When these last are separated up to the internal ring, the peritoneum is seen to consist of two layers, of which the external forms the inner layer of the little sac, and the other closes completely the inner ring against the testicle. The testicle passes down into the two layers from behind forwards, and thus gains two peculiar coverings, one cellular and fibrous, the tunica albuginea, the other serous, the tunica adnata. The gubernaculum next appears, fixed to the lower end of the testicle, and, growing downwards, draws the testicle into the canal; and, it is by the further development of this gubernaculum, and by its own growth, that the testicle is at last brought into the scrotum, the gubernaculum forming a road for it. When the testicle has reached the base of the scrotum, the duty of the gubernaculum is fulfilled. Here, the testicle is covered by the cutis, fascia, and dartos, layers proper to the scrotum; the three layers which it has brought down with it, are the fascia superficialis, muscular fibres of int. obliq. and transv., and the cellular layer of the peritoneum; the tunica vaginalis, and the adnata testiculis, are folds of its serous layer.*

— E. H. Weber has for several years investigated the mode in which the descent of the testicle is effected in man and some of the lower animals. He finds that, in the spot where the inguinal canal is to be formed, a closed sac is formed between the fibres of the abdominal muscles, and entirely independent of the peritoneum; it may be likened to a bursa mucosa, and considered as a serous sac. It increases upwards towards the abdomen, presses together the folds of peritoneum in which the testicle is suspended, and carries upwards muscular fibres from the int. obliq. to the lower part of the testicle. It hence appears that the gubernaculum of Hunter is not a solid cord, but a cavity covered by muscular fibres. The lower part of the sac grows downwards towards the scrotum, forming a way there for the testicle, even before this has commenced its descent; this lower part is not covered by muscular fibres. When the testicle descends, the upper part of the sac becomes doubled down into the lower, like a double nightcap; the process is best observed in hares and rabbits, and particularly in the beaver. This inversion is brought about by the natural formative action, and partly by the mechanical action of the muscles which surround the upper half of the sac; but their exact share in the process, and how exactly this is effected, does not appear very evident.†

52. *Mucous Membrane of the Uterus.*—The presence of this membrane, M. Robin states, is readily shown; it is of considerable thickness in the fundus of the uterus, and, in fact, thicker there than in any other part of the body; it contains tubular glandules, which are visible to the naked eye, independent of the state of gestation; these glandules are united to each other by a peculiar tissue and by vessels, and through the union of these elements, the dermis or chorion of the mucous membrane is formed. The mucous membrane is covered by an epithelium, which is the only part of it hitherto described; its thickness is from three to five millimetres, increasing at the menstrual periods, and decreasing in old age; it is thinner towards the neck of the uterus, and at the entrance of the Fallopian tubes. It is very adherent to the proper tissue of the uterus, but readily torn. When a verticle section of the uterus is made, its line of demarkation from the other tissue is very distinct, especially when it is injected with blood. In its intimate structure it consists, in great part, of fibroplastic elements. The membrana decidua is nothing but the mucous membrane hypertrophied during gestation; its surface is perfectly smooth. The long and floating villousities, such as have been described on it by Bischoff, are due to artificial changes. The decidua vera is continuous with, and identical to, the decidua reflexa; large vessels are seen passing from one to the other, and uterine glands exist alike on both. The decidua reflexa increases with the growth of the ovum, becomes thinner as it enlarges, and its vessels are at last partly atrophied. (The decidua serotina is no consecutive formation, but merely that portion of the membrana decidua which is naturally interposed between the

* Dr. Beck, Schmidt's Jahrbuch., p. 290, 1848.

† Müller's Archiv., p. 403, 1847.

ovum and the muscular walls.) Thus, neither the decidua vera nor the decidua reflexa are new formations; one is naturally hypertrophied, and the other an expansion of this around the ovum; their intimate structure is the same. The decidua reflexa retains the ovum *in situ*, and becomes a temporary maternal placenta. The placenta is entirely composed of large villousities, infinitely ramified, each terminal branch of which is supplied by a single arterial capillary. The mucous membrane consists of the same elements during gestation as at other periods, viz., fusiform fibres and fibro-plastic nuclei, cellular tissue, interposed between the tubular glandules, and united by an amorphous substance, through which granules are scattered. At the fourth month of gestation, the mucous membrane begins to lose its character of vital energy, becoming less adherent to the uterine walls, thinner and atrophied, and, at the same time, a new membranous formation, soft and homogeneous, appears between it and the muscular tissue; this is the first appearance of the layer of mucous membrane which succeeds the membrana decidua. After accouchement it gradually becomes thicker, and takes the natural characters of the mucous membrane, about seventy days after the ovum's birth.*

53. *State of the Internal Surface of the Uterus after Delivery.*—The extensive researches of Dr. Colin have led him to the following conclusions regarding the state of the internal surface of the uterus after the expulsion of the mature ovum. They agree with the doctrines of Sharpey, Coste, &c.

1st. It is not the case that, after delivery, the internal layer of the muscular tissue of the uterus is laid bare. 2d. A vascular membranous layer is retained, and covers the muscular tissue. 3d. This layer does not differ from the decidua vera, or, in other words, the uterine mucous membrane. 4th. This layer is not carried away with the lochia, nor destroyed even when the discharges are purulent. 5th. Some flakes of membrane, probably detached during labour, are sometimes discharged with the first of the lochia; but the essential vascular part remains. 6th. This part is the seat of the process set up to reproduce the perfect internal membrane of the uterus. 7th. Purulent lochia, instead of resulting from the disorganization of this layer, are the consequence of the reparatory process set up in it. 8th. This layer regains its natural mucous constitution twenty or thirty days after labour. 9. The new mucous membrane is, at first, pulpy, thicker, and more vascular than normally. 10th. From this time its elements recontract; and 11th, about the sixtieth or seventieth day, it has regained its own proper condition.†

54. *New Theory of Fecundation.*—Bischoff proposes a new theory of fecundation: he refuses to admit that the spermatozoa are the essential parts of the semen, though their movements may be necessary to sustain the proper constitution of the fluid. He sees nothing opposed to the opinion that fecundation is produced by a chemical action, is the consequence of a catalytic agency, wrought on the ovum by the semen. Liebig's discoveries have thrown fresh light on his mind. All motion is but the effect or the measure of material changes—where there is movement, there is change of form and substance: now the earliest appearances of fecundation are most remarkable internal movements in the yolk; they have been seen, indeed, in the unfecundated ovum; a right direction and intensity are given to these movements by the action of the spermatozoa. Observers, he says, are apt to look upon the spermatozoa as animals, because they cannot divest themselves of the movements these exhibit, but he looks on these movements as being but the visible expression of hidden molecular changes. Chemical action and vitality are forces which only manifests themselves by immediate contact. The spermatozoa excite an internal movement, by which the seminal fluid is rendered prolific. Fecundation is an accidental but necessary result of the consentaneous action of the ovum and the semen.‡

55. *On the Development and Use of the Spermatozoa.*—The following account of the origin of the spermatozoa, is given in the "Cyclopædia of Anatomy and Physiology."

1st. All spermatozoa originate in "formative vesicles," which appear to re-

* Archives Générales, July 1848.

† L'Union Médicale, and Monthly Journal.

‡ Müller's Archiv., p. 415, 1847.

semble the secreting cells of glands in being metamorphosed epithelium cells of the glandular tubuli or follicles.

2d. From these formative vesicles, the spermatozoa are produced in one of the three following modes: *a*, by the conversion of the cell-membrane and nucleus of the formative vesicle itself into the spermatozoon, a method in which the change is the least possible, and which is only found among the nematoid worms; *b*, by the metamorphosis of the nucleus of the formative vesicle into the spermatozoon, a method which is much more common, especially among the lower animals, in many of which (as chilopoda, acarina, and entomostraca) the spermatozoa remain as solid massive corpuscles, resembling the nuclei from which they sprang, instead of having the filiform shape of ordinary spermatozoa; *c*, by the endogenous development of cells originating in the nucleus of the parent cavity, each young cell producing a spermatozoon within it. This last method is that which we find in all the higher animals; but its latter part may take place in two ways. The parent-vesicle may burst and set free the young cells, before the latter have begun to form the spermatozoa, which then evidently issue from them. But it frequently happens that the development of the spermatozoa takes place, whilst the cells within which they are formed are yet within the parent vesicle; and the walls of these cells give way, so that the spermatozoa come to be associated together in bundles within the parent cells, as formerly described by Wagner, and are finally set free by their rupture. The authors of the "Cyclopædia" regard the spermatozoa as the essential constituent of the semen.*

§ IX.—*Embryology and the Fœtus.*

56. *Blood-corpuscles.*—The first corpuscles seen in the blood of the frog's ova are embryonic cells; nuclei of these cells can be found in the hollow vessel, which represents the embryo heart. These corpuscles pass through a series of changes until they at last assume the form of the perfect blood-corpuscle. The embryonic cell dissolves at its border, its larger granules collect towards the centre; it becomes flat and oval, and takes a yellow hue; its granular contents gradually disappear, until at last nothing remains but a little mass in the centre, which soon contracts into a well-defined nucleus; the cell assumes a darker colour, and then resembles in all its characters the blood-corpuscles of the perfect animal. Here we see the membrane of the embryonic cell persistent; in the formation of muscular fibre, part of it is most probably converted into myolemma.

Dr. Cramer thus describes the development of the lymph-corpuscle into the blood-corpuscle. The lymph-corpuscle consists of a mass of granules, closely enveloped by a fine membrane; these granules are gradually diffused, and the corpuscle then appears as a pale, round cell, containing the loosened mass of granules. This cell slowly enlarges, and becomes oval, its granules lie looser, and are less defined, and it takes a yellow hue; next the cell is flattened, its loose contents combine into a firm, oval nucleus, yet still dotted with fine points, and its colour deepens; then the border of the nucleus becomes more distinct, and the points disappear; the colour takes its full shade, and so renders the pale nucleus less distinct; and thus the blood-corpuscle is formed. As the blood-corpuscle degenerates, its colour fades, and its nucleus again becomes more distinct; its borders fall in, and its walls appear folded and torn, and gradually to pass away; but still the nucleus remains firm, whether it ultimately falls out, and enters the circulation, it is difficult to say, so closely does it resemble a lymph-corpuscle.†

57. *Blood-corpuscles of the Human Embryo.*—Mr. Paget has examined the blood of the fœtus at four weeks old, which is the earliest period at which it has been submitted to microscopic inquiry. The great majority of the red corpuscles presented a circular outline, and, as they rolled over, appeared spheroidal and vesicular. Their surfaces were smooth, and, as they dried, portions of their edges were incurved and folded towards their centres. They were ap-

* Part XXXIV.

† Muller's Archiv., p. 63, 1848.

parently more deep-coloured than in adult blood. The nuclei were circular, with well-defined dark outlines, and darkly nebulous, as if granulated. All the corpuscles were nucleated; some contained two nuclei, and were ovoidal, and larger than the rest.

The measurements of the spheroidal corpuscles were from 1-2100 to 1-2800th of an inch in diameter; that of the nuclei from 1-3700 to 1-4500th. Of the bi-nucleated cells the measurements were 1-1500 by 1-2300th of an inch.*

58. *Muscular Fibre*.—The first appearance of muscular fibre is in the form of a fine sheath filled with yelk-corpuscles; the sheath itself would not be visible, did not its contents leave here and there clear intervals, where it is somewhat contracted. These intervals occur at equal distances, and the masses which lie between them correspond to the size and contents of a cell (embryonic?); so that the mode of origin, as described by Schwann, is hereby confirmed. The yelk-cells gradually disappear, and their place is occupied by striped fibrillæ; it is impossible to follow out the formation of these, concealed as they are by the dark masses of yelk-corpuscles; the change does not take place at the same time throughout the whole fibre, for it may consist at one end of striped fibrillæ, and at the other of yelk-corpuscles. Whenever the fibre is fully formed, its power of contraction exists; and the presence of nerves shows that animal motion is alone produced by the combined action of nerve and muscle.

All that Dr. Cramer could learn concerning the mode of formation of nerves was, that they were developed before the muscles, and were formed out of embryonic cells.†

59. *Existence of Iron and Phosphate of Lime in the Egg*.—Mr. Taylor has lately examined the question, as to the existence of iron and phosphate of lime in the egg. He has distinctly ascertained the presence of iron, both in the white and in the yelk of newly laid eggs, probably existing in each in equal proportions; phosphate of lime, also, he shows to be a large constituent. He concludes that these bodies exist in some unknown state of combination; the shell of the egg contains no iron, and but very slight traces of phosphate of lime.‡

60. *Development of the Ovum*.—Dr. Melville's researches compel him to doubt the accuracy of many of Dr. Barry's observations on the development of the ovum; but they confirm those of Bischoff.

All that can be said of the germinal vesicle is, that it disappears before the ovum leaves the ovary, after impregnation; the fissuring of the yelk is produced by the primitive yelk being resolved into smaller and smaller segments, the alternate segments becoming cells, from which the new being is formed, and not to a cell development proceeding from the germinal spot as a centre. The two cells, which Barry states to originate from the enlarged germinal spot, are only the halves of the primitive yelk. The yelk is such as Bischoff has described it; it is not composed (after impregnation) of distinct and separable cells. The spermatozoa do not enter the zona pellucida by a distinct orifice. The globules described by Bischoff as floating in the fluid surrounding the yelk before and after fissuring has commenced, Dr. Melville believes, arise from the solution and vital attraction inwardly by the ovum of certain spermatozoa, and that the final cause of the fissuring has been rightly assigned by Barry. The albumen is a new formation received in the upper part of the Fallopian tube; between its structureless layers numerous spermatozoa are interstratified. Dr. Melville could not see the rotation of the ovum described by Bischoff.§

61. *Pulmonary Tissue of the Fœtus*.—M. Natalis Guillot has found that the pulmonary tissue of the fœtus contains a much larger proportion of fatty matter before than it does after birth; and that the fat begins to diminish when respiration commences, being, before that function is brought into play, as 12, 15, and 18 to 100 parts of the tissue, but afterwards only as 6 to 100 parts. In all affections of the chest, where respiration is obstructed, the fatty matters increase.||

* Medical Gazette, Feb. 2, 1849.

† Guy's Hospital Reports, vol. vi. pt. 1.

‡ Comptes Rendus, July 12, 1847.

§ Muller's Archiv., p. 63, 1848.

|| Edin. Monthly Journal, Dec. 1847.

62. *Pulse of Infants*.—Dr. Farge has made numerous researches respecting the pulse of infants. The pulse of the foetus beats 130 to 140 per minute; immediately after birth, the pulse is not more than 72 to 94, but it quickly rises to 140 and 200, and then gradually subsides to 80 and 112, but is very variable, from the natural excitability of the child. During the first month, the pulse increases to 125 and 130, and goes on increasing up to the third month, being then 130 to 140; from this period it gradually decreases to the age of puberty, when it remains about 80.*

63. *Composition of Fœtal Urine*.—Dr. M'Clintock has performed several careful analyses of the urine secreted by the foetus, from which he has elicited the fact that, before birth, the urine differs from that secreted after birth, in being highly albuminous and destitute of urea. It thus appears that a condition which, after birth, is pathological, before birth is a strictly physiological state.†

‡ X.—Miscellanea.

64. *Vital Affinities*.—Dr. Alison‡ continues to review the facts relative to the formation of oils and albuminous compounds, with the view of illustrating the modifications produced by vitality in chemical affinities. The formation of fat or oil, in vegetables, seems to be effected simply by the separation of oxygen from starch; but in those animals in which no oxygen is evolved, and yet oils are formed, the formation is brought about probably by an affinity of the greater part of the carbon and hydrogen for the small part of oxygen; while the lesser part of the carbon and hydrogen passes off as carbonic acid and water, with the greater part of the oxygen; and thus does vital affinity play its part in the formation of oils. Dr. Alison, however, admits that simple chemical action may produce oily matters, as in the formation of adipocire from fibrin; and the fact of exercise restraining the formation of fat he thinks important, as indicating that vital affinities do not supersede, but are merely added to, the usual chemical relations of the elements subject to them.

Dr. Alison holds that albumen may be formed in the body, and chiefly from amylaceous matters; but admits that this can only be to a small extent; and that the general distinctions of azotized and non-azotized aliments, and of the frame being protected by the latter from the action of oxygen, &c., are quite consonant with clinical observations. Gelatine, he considers, is certainly formed by the separation of carbon and hydrogen from the albumen by the aid of oxygen derived from the air; but it may be also formed by the action of oxygen on the elements of starch and ammonia.

Dr. Alison gives this statement respecting nutritive absorption and excretion: at the extremities of the capillaries, in the more perfect animals, carbon, hydrogen, nitrogen, and oxygen are continually forming two sets of compounds: certain portions of these elements, recently introduced as aliment, either separating as organic compounds, or uniting to form such compounds, attaching to themselves saline and earthy particles, taking the form of cells and fibres, and building up the organized frame; while other portions, which have already been some time in the body, reject these new matters, unite with oxygen from the air, and continually fall away into compounds, which are destined to excretion, and poisonous, if retained in the system. From these and like facts, Dr. Alison draws the proof of the existence of that principle, the modification of chemical combinations by the contact of living structures, to which the term vital affinity is applied; like all other vital actions, vital affinities have the distinctive peculiarity of being transient in duration.‡

65. *Action of Light on the Iris*.—It results from the researches of M. Brown Séquard, that the nervous and muscular fibres of the iris in the batrachia and fishes may be *directly* excited to action. When the eye of an eel or a frog is extracted from the orbit, and completely denuded, and then exposed to the light, the pupil at once contracts, and again dilates, if the eye is placed in a dark

* Archives Générales, Band xvii. p. 124.

† Dublin Journal, Feb. 1849.

‡ Proceedings of the Royal Society of Edinburgh, 1847.

§ Edin. Monthly Journal, Dec. 1847.

place; the contractions and dilatations may be repeated from 50 to 100 times in an hour by the same eye. When the light is allowed to act only on the retina, the iris remains unmoved; but it contracts when the light acts only upon it. In the uninjured eye of living batrachians, the iris is moved both by the action of light on its own tissue, and by its action on the retina and on the nervous centres. The pupil of the eye of a mammifer, or a bird, extracted from its orbit, dilates or contracts by change of temperature, according to its condition of dilatation or contraction previous to the experiment.*

66. *Periosteum*.—The clavicle has been lately extirpated by M. Blandin, its periosteum being left behind; eight months afterwards the clavicle was formed anew, and found almost perfect, and the arm could be used as well as before. The case is quoted as illustrating the theory of Flourens and Syme, that bone can be formed by periosteum; but Goodsir has clearly shown that it is impossible to strip the periosteum off bones without leaving bony spiculæ behind, and that from these spiculæ new bones spring.†

67. *Entozoa*.—M. Blanchard has investigated the habits and mode of development of the *Fasciola hepatica*, an entozoon, very common in the livers of the ox, sheep, &c. In all his researches, M. Blanchard never found any but *adult animals* in these affected livers. In spring, myriads of their ova could be detected in the biliary canals, and ductus choledochus, and throughout the whole length of the intestinal canal; the nearer these ova approached the extremity of the intestines, the more fully developed did they appear. M. Blanchard considers it evident that the ova undergo incubation in their progress, are cast out of the body with the fæces, and again taken into the body with the food in a farther stage of development; on this latter point, however, he had no data for speaking decisively. In the batrachia, whose intestines swarm with entozoa, M. Blanchard has never found any but adult, or very nearly adult, trematodes. He considers it very probable that, in the human subject, the eggs of tænia, &c., are swallowed with the food; in some countries tænia seem endemic. M. Blanchard has never seen worms in the fœtus—their existence is, however, placed beyond all doubt by M. Grätzer.‡

* Archives Générales, p. 406, 1847.

† Gaz. Méd. de Paris, p. 261, 1847.

‡ Comptes Rendus, p. 355, 1848.

BOOKS RECEIVED.

1. Practical Treatise on the Domestic Management and most Important Diseases of Advanced Life. By George E. Day, M. D. 8vo. pp. 330.
2. Thoughts on Pulmonary Consumption. By Dr. Madden. 8vo. pp. 220.
3. On Infantile Laryngismus. By Dr. Reid. 8vo. pp. 204.
4. On the Cerebral Affections of Infancy and Childhood, &c. By Dr. Valentine Duke. 8vo. pp. 96.
5. Pathology of the Human Eye. By John Dalrymple, Esq. Imperial 4to. Fasciculus I.
6. Reports of Asiatic Cholera in the Madras Army from 1828 to 1844. By Samuel Rogers, Esq. 8vo. pp. 267.
7. The Cholera at Malta in 1837. By Dr. Stilon, translated by Dr. Seth Watson.

** * These are two of the best and most useful of the swarm of books and pamphlets on Cholera which have recently appeared.*

8. Sierra Leone. By R. Clarke, M. R. C. S., Edinburgh.

** * A description of the manners and customs of the liberated Africans, interspersed with many valuable remarks on the climate and diseases of the country.*

9. Code of Safety; or, Causes, Effects, and Aids, preventive and curative of other Epidemics, as well as of Asiatic Cholera. By G. Collier, M. D. 8vo. pp. 96.
10. Practical Treatise on Inflammation of the Uterus and its Appendages, and on Ulceration and Induration of the Neck of the Uterus. By James Henry Bennet, M. D. 2d edit., 8vo. pp. 523.
11. Obstetrics, the Science and Art. By Charles Meigs, M. D., Philadelphia. 8vo. pp. 684.
12. A Physician's Holiday. By Dr. Forbes.
13. Origin, Spread, and Decline of the Epidemic Fevers of Sierra Leone. By Alexander Brydon, M. D. pp. 174.
14. Elements of Chemistry, Theoretical and Practical. By Sir Robert Kane, M. D. 2d. edit., pp. 1061.

** * This is one of the most complete treatises on Chemistry extant, and, in the present edition, has been much enlarged and improved; it is also profusely illustrated with woodcuts, which greatly enhance its value as a work of reference.*

15. Elements of Electro-Biology; or the Voltaic Mechanism of Man. By Alfred Smee, F. R. S. 8vo. pp. 164.
16. Healthy Skin; a Treatise on the Management of the Skin and Hair. By Erasmus Wilson, F. R. S. 3d edit.
17. Parturition, and the Principles of Obstetrics. By Dr. Tyler Smith. pp. 385.
18. On Healthy and Diseased Structure. By W. Addison, M. D., F. R. S. 8vo. pp. 320.
19. Lectures on the Causes and Treatment of Ulcers of the Lower Extremities. By George Critchett, F. R. S. 8vo. pp. 120.
20. Transactions of the American Medical Association. 8vo. Philadelphia.

PAMPHLETS AND REPRINTS.

1. On the Minute Structure and Mode of Contraction of Voluntary Muscular Fibre. By Murray Dobie, Esq.
2. The London and Provincial Directory. Remarks by Richard Dawson.

** * One of the numerous modes of puffing employed by the "manly vigour" fraternity.*

3. Cases in Private Practice. By Richard Wardell, M. D.

** * Many of these have been noticed in former volumes.*

4. The Hunterian Oration. By Cæsar Hawkins, F. R. S.
5. Operation for Artificial Anus. By J. Mason Warren, M. D.
6. Ligature of the Left Subclavian. By the same (see art. 64).
7. Researches on Meteorology. By Dr. Bennett Dowler.
8. Researches on the Capillary Circulation. By the same.
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INDEX TO VOL. IX.

	PAGE
ABSCCESS of the spermatic cord, case of	140
of the pituitary body	201
of the liver bursting into the pericardium	210
Absorbents, termination of	324
of the lungs	325
ADDISON, Dr., on a peculiar form of anæmia	194
Dr. W., notice of a work by, on Healthy and Diseased Structure	185
Adventitious products, Dr. WALSH on	195
After-pains, Dr. TYLER SMITH on	163
Air-sacs in birds	312
Alcohol, digestion of	319
ALISON, Dr. SCOTT, on dropsy after scarlet fever	26
ALISON, Dr., on vital affinities	330
Anæmia, peculiar form of	194
in connection with bronchocele	195
Anæsthesia in midwifery, Dr. CHANNING on	269
objections to, by Mr. GREAM	270
Aneuralgicon, description of the, <i>with engraving</i>	224
Aneurism of the carotid artery, simulating tonsillitis	87
of the coronary artery	209
of the ventricle	ib.
treatment of, by compression, in America	241
Anus, artificial, operation for, by Dr. MASON WARREN	136
Apoplexy, and cardiac disease, relations between	198
cerebral affections simulating	200
Arachnitis, cerebro-spinal, case of	41
ARAN, M., on disease of the heart and great vessels as a cause of sudden death	208
ARNOTT, Dr. JAMES, on congelation in erysipelas	17
Arsenic, in chronic bronchitis	204
Artery, subclavian, ligature of, internal to the scaleni	245
Asthma, cachectic, Dr. DAY on	56
chloroform in	204
Astragalus, dislocation of, reduced by division of the tendo-Achillis	121
BALLARD, Dr., on corroding ulcer of the uterus	273
BALMAN, Mr., case of cystorrhœa cured by injection	108
BASHAM, Dr., on nitre in the treatment of acute rheumatism	213
BATTERSBY, Dr., on enlargement of liver and spleen in children	289
Bebeerine in strumous ophthalmia	124
BECLARD, M., on the blood of the splenic veins and vena portæ	305
BEGBIE, Dr., on bronchocele and anæmia	195
BENNET, Dr. HENRY, notice of a work by, on Inflammation and Ulceration of the Os and Cervix Uteri	268
BENNETT, Dr. HUGHES, on cancerous and canceroid growths	186
on a case of spontaneous evacuation of an ovarian cyst by the bladder	275

	PAGE
BENTLEY, Dr., case of abscess of the liver bursting into the pericardium	210
BERNARD, Dr., on the source of sugar in diabetes	215
on the pancreatic juice	320
on the urinary secretion	323
Biliary calculi	211
BIRD, Dr. GOLDING, on a case of anomalous spinal affection	43
BISCHOFF, M., a new theory of fecundation	327
Bladder, cases of rupture of	88
Blood-corpuscles, development of	328
of the embryo	ib.
Blood, state of the fibrin in	303
venous and arterial difference between	ib.
of the splenic veins and vena portæ	305
presence of lead and copper in	306
Bone, development of the Purkinjean corpuscle in	300
BOURGERY, M., on the nerves of the tongue	306
BRANSON, Dr., on a case of ovariectomy	276
Bronchocele and anæmia, relations between	195
BROOKES, Dr. P., case of abscess of the spermatic cord by	140
BRYAN, Dr., on the treatment of croup by nitrate of silver to the interior of the larynx	174
BUCK, Dr. GORDON, on the treatment of cedema glottidis by scarification	52
BURGESS, Dr., on skin diseases	79
on the treatment of prurigo	83
Calculus, vesical, difficulty in the diagnosis of	86
in the female	110
biliary	211
Cancerous and canceroid growths, Dr. BENNETT on	186
CANE, Dr. ROBERT, on uterine hemorrhage	165
Cannabine in cholera	233
Carbon, free, in the human body	198
in gastrodynia	233
Carbonic acid, inhalation of, in phthisis	207
exhalation of, in health and disease, by M. HERVIER	316
CARLYON, Mr., on the treatment of purpura by nitre	194
Carotid artery, aneurism of, simulating tonsillitis	87
Catarrh, abortive treatment of	204
Cerebellum, function of	310
Cerebral disturbance from uterine irritation	156
CHANNING, Dr., on anæsthesia in midwifery	269
CHASSAIGNAC, M., on the necessity of double ligatures for certain arteries	245
Chloroform, medicinal use of	219
surgical use of	226
Chlorosis, treatment of	158
Cholera, notices of	193
CHURCH, Mr., case of recovery from rupture of the uterus	282
Circulation in insects, by M. BLANCHARD	302
capillary, by M. BOURGERY	ib.
CLAY, Dr., statistics of ovariectomy	278
Cleft palate, Mr. FERGUSON on	251
operation for	253
Climacteric disease in women	274
COATES, Mr. W., description of a simple truss for congenital hernia	115
Cod-liver oil in phthisis	57, 206
formula for	220
account of, by Dr. PEREIRA	ib.
Collodion, in skin diseases	82, 220
in surgery	100
for sore nipples	159

	PAGE
Compression in the treatment of aneurism	241
Congelation, treatment of erysipelas by	17
Convulsions, puerperal, Dr. MURPHY on	166
"salaam" of infants	172
Convulsive diseases, Dr. TODD on	201
COOPER, BRANSBY, Esq., on the diagnosis of fissure of the rectum	84
on the treatment of stone in the female	110
on the operation for hare-lip	258
CORFE, Dr., on cerebral disturbance from uterine disorder	156
COTTON, Dr. PAYNE, case of suffocation from a piece of meat impacted in the glottis	99
Cotyledon umbilicus in epilepsy, Mr. SALTER on	200
CRITCHETT, Mr., on the treatment of ulcers of the legs	103, 226
CROSSE, Mr. J. G., case of dislocation of the astragalus reduced by division of the tendo-Achillis	121
Croup, treatment of, by nitrate of silver to the interior of the larynx	174
Cystorrhœa, cure by injection	108
DALRYMPLE, Mr. JOHN, notice of his work on Diseases of the Eye	226
DAVIES, Dr. W., on electro-magnetism in rheumatic paralysis	46
on fever in connection with sanitary reform	189
DAY, Dr. G. E., on the cachectic asthma of the aged	56
on diminished secretion of urine in the aged	78
notice of a work by, on Diseases of Old Age	188
DELANEY, Dr., case of glossoceles cured by operation	129
DENDY, Mr., on the cerebral diseases of infancy	287
Diabetes, gastric origin of	214
source of the sugar in	215
formula for bread adapted to	218
Diarrhœa, nux vomica in	223
Dislocation of the astragalus reduced by division of the tendo-Achillis	121
of the fifth cervical vertebra successfully reduced	131
compound, of the humerus	131, 246
DONOVAN, Dr., on a peculiar obstruction of the bowels	212
DOBIE, Mr., on the minute structure of muscle	293
DOUGLAS, Dr. HALLIDAY, case of aneurism of the left ventricle	209
DOWLER, Dr. BENNETT, on the capillary circulation	303
DOWNING, Dr., description of the aneuralgicon	224
Dropsy after scarlet fever	21
DUBOIS, M. PAUL, on the induction of premature labour	280
DUKE, Dr., case of carotid aneurism simulating tonsillitis	87
DUKE, Dr. VALENTINE, notice of an essay by, on the Cerebral Diseases of Infancy	287
Dysentery, treatment of, by copious enemata	212
Dysmenorrhœa, congestive, Mr. WHITEHEAD on	148
ECKER, Dr., on the changes which the blood-globules undergo in the spleen	304
Eclampsia nutans, Mr. NEWNHAM on	172
EDWARDS, Dr. C., on a simple mode of plugging the nostrils	120
Electro-magnetism in rheumatic paralysis	46
case of convulsions cured by	49
in hydrocele	114
benefit of, in paralysis, denied	219
in local neuralgia, Mr. TUSON on	ib.
Entozoa, habits of	331
Epilepsy, cotyledon umbilicus in	200
scutellaria galericulata in	ib.
Erysipelas healed by congelation	17
Extra-uterine foetation, case in which gastrotomy was performed	279
Eye, notice of Mr. DALRYMPLE'S work on	226

	PAGE
Fecundation, new theory of	327
Femur, excision of the head of, opinions on	248
FENTON, Mr., instrument of, for relieving local pains	225
FERGUSSON, Mr., opinion of, on excision of the head of the femur in caries on cleft palate	249 251
Fever, scarlet, dropsy after, by Dr. TODD	21
by Mr. TRIPE	25
by Dr. SCOTT ALISON	26
by Dr. MILLER	192
intermittent, cupping to the spine in	28
new sign of	191
continued, of infants, Drs. WEST and WILSHIRE on	167, 169
in relation to sanitary reform	189
typhus and typhoid, question of identity	190
Fœtus, cause of the position of, in utero	286
pulmonary tissue of	329
Fracture of the thigh in infants, treatment of, in the flexed position	116
neck of the femur within the capsule—bony union	131
FROST, Dr. H., on electro-magnetism in hydrocele	114
Funis, prolapse of, during labour	282
GARROD, Dr., on the antagonism of gout and phthisis	214
Gastric juice, composition of	319
Gastrodynia, treatment of, by charcoal, internally	223
GAY, Mr., abstract of his views on femoral hernia	263
Glanders in the human subject, cases of	193
Glossocele, congenital, cured by operation	129
Glosso-pharyngeal nerves, Drs. BIFFI and MORGANTI on	308
Glottis, œdema of, treated by scarification	52
impaction of meat in, producing suffocation	99
GOLDING, Dr. R. C., on the treatment of chlorosis	158
Gout and phthisis, question of antagonism	214
GRAVES, Dr. H., cases of glands	193
GREAM, Mr., notice of a pamphlet by, on Anaesthesia in Midwifery	270
GROSS, Dr., new operation by, for varicocele	113
GUILLOT, M., on the minute anatomy of the liver	316
on the pulmonary tissue of the fœtus	329
Hæmaturia, Dr. TODD on	73
Hæmoptysis, value of, as a sign of phthisis	206
HALL, Dr. MARSHALL, on the neck as a medical region	28
HAMERNJK, Dr., on the mechanism of the closure of the valves of the heart; and of its sounds	300
HAMILTON, Dr. (U. S.), on enlarged tonsils	250
Hare-lip, operations for	257
HARGRAVE, Dr., on ligature of the subclavian internal to the scaleni	245
Heart, diseases of, characters of the pulse in	59
signs of, derived from palpitation	ib.
and apoplexy, connection of, disputed	198
as a cause of sudden death	208
notice of Dr. HORE's treatise on	207
polypoid concretions of	ib.
mechanism of its valves and sounds	300
irritability of	302
Hemorrhage, uterine	165
intestinal, in infants	176
from the umbilicus	287
HERAPATH, Mr., case of ruptured ovarian cyst	275
Hernia, and varicocele, diagnosis of	85
inguinal, incomplete reduction of, <i>en masse</i>	92

	PAGE
Hernia, strangulated, returned <i>en masse</i> by taxis	95
congenital, simple truss for	115
strangulated, employment of sugar of lead in	ib.
femoral, Mr. GAY on	263
HERVIER, M., on the exhalation of carbonic acid in health and disease	316
HESLOP, Dr., case of abscess of the pituitary body	201
HEWETT, Dr. PRESCOTT, on laryngotomy in acute affections of the larynx	262
HOFFMAN, Dr., on prolapse of the funis	282
HOPE, Dr., notice of his treatise on the Diseases of the Heart	207
HOSACK, Dr., cases of aneurism treated by compression	244
Hospital gangrene, history and treatment of, by Mr. GUTHRIE	235
by Dr. BOGGIE	237
HUGHES, Dr. MARSHALL, on cerebral affections resembling apoplexy	200
HULLIHEN, Dr., on the treatment of tic douloureux by injections of ni- trate of silver into the antrum maxillare	50
Hydrocele, treatment of, by electro-magnetism	114
Hydrometra of the unimpregnated womb	158
Ice, use of, to promote uterine contractions	167
Infancy, cerebral diseases of, by Mr. DENDY and Dr. DUKE	287
Infants, pulse of	330
Influenza, notice of a work by Dr. PEACOCK on	192
Intestine, peculiar obstruction of the	212
loop of, engaged between the uterus and abdominal walls during labour	281
Intestinal hemorrhage in infants, M. RILLIET on	176
mucous membrane, anatomy of	321
Iodide of potassium in saturnine affections	222
Iris, action of light on	330
Iron and alumina, new salt of	222
IRVING, Dr., on the treatment of dysentery by enemata	212
JAKSCH, Dr., on "frémissement" in cardiac disease	59
Jaw, singular spasmodic affection of the lower	39
JENNER, Dr. W., on the question of identity of typhus and typhoid fever	190
JONES, Dr., new instrument by, for vaginal injections	273
Dr. BENCE, on electricity in paralysis	219
Dr. C. H., on the nerves of the liver	318
on the intestinal mucous membrane	321
KIDD, Dr., account of the wounded in the insurrection of Paris	231
Kidney, minute anatomy of, by Dr. GERLACH	323
KIRKES, Dr., notice of his "Handbook of Physiology"	290
Labour, premature induction of	280
Lacteals, M. WEBER on the	324
Lard, inunction with, in scarlatina	27
Laryngismus stridulus	288
Laryngitis, membranous laryngotomy in, cases	175
Laryngotomy, question of, in acute affections of the windpipe	262
Larynx, ossification of	311
LEE, Mr. H., on the treatment of piles	118
LEIDY, Mr., on the areolar sheath of muscles	202
on the development of the Purkinjean corpuscle	300
on the liver of insects	318
Lemon-juice, in rheumatic gout	64
Ligatures, double, required for certain arteries	245
made of animal substances	246
Lithotomy by the rectum, new mode of performing	119
Liver and spleen, enlargement of, in children	289

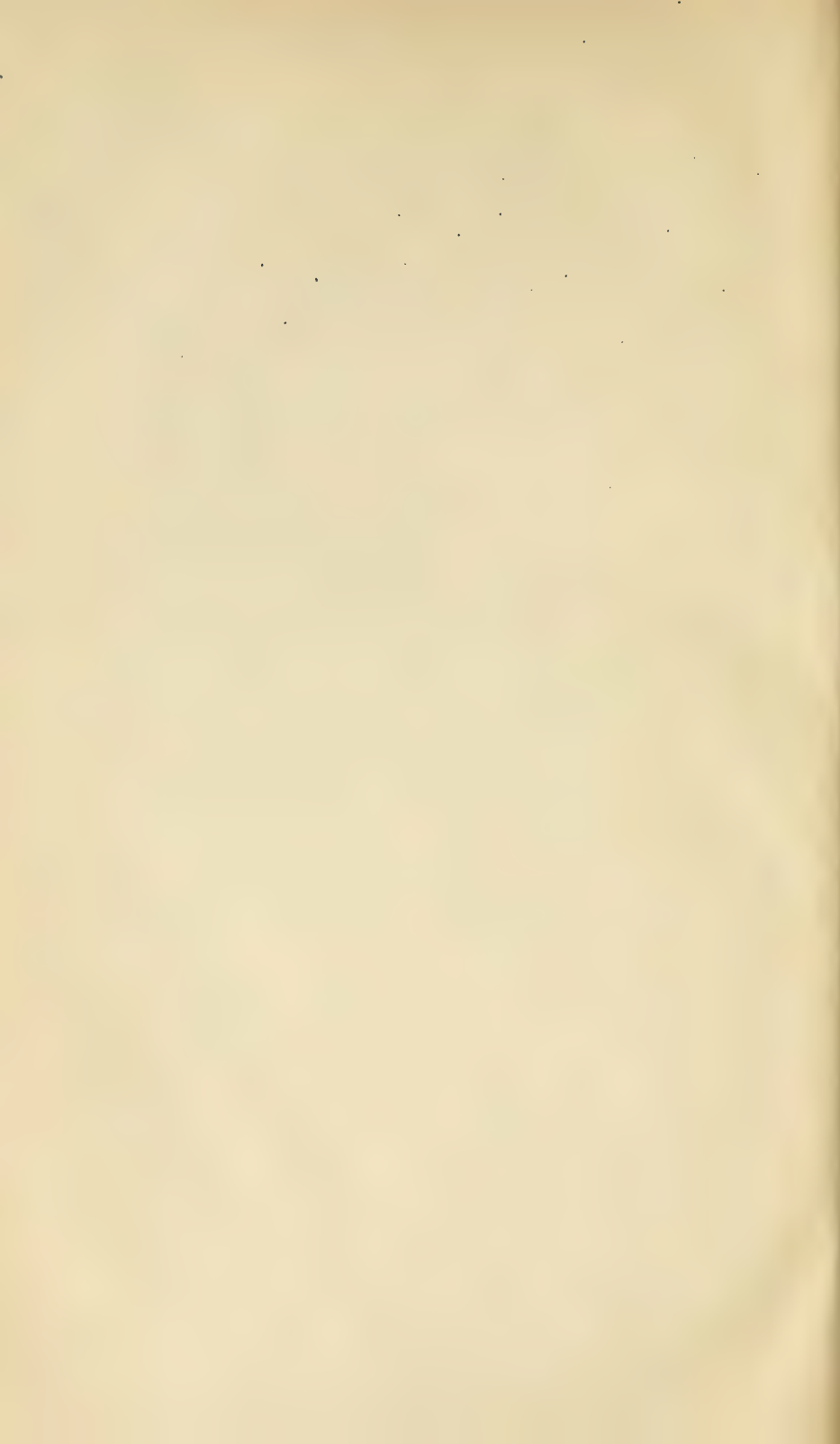
	PAGE
Liver, abscess of, bursting into the pericardium	210
minute anatomy of, by M. GUILLOT	316
nerves of, by Dr. C. H. JONES	318
of insects, Mr. LEIDY on	ib.
LLOYD, Mr. E. A., on a case of phagedenic ulcer of the perineum cured by conium	121
LONDSDALE, Mr., on the treatment of fracture of the thigh in children in the flexed position	116
Lungs, minute anatomy of	314
changes in, after division of the pneumogastric nerves	315
absorbents of the	325
Lymphatics, action on soluble substances	ib.
M'CCLINTOCK, Dr., on urethritis in the female	270
on the foetal urine	330
M'DONNELL, Dr., case of acute cerebro-spinal arachnitis	41
MACINTYRE, Dr., on the gastric origin of diabetes	214
MACLISE, J. Esq., notice of his work on Surgical Anatomy	226
MAISONNEUVE, M., on a new method of performing lithotomy by the rectum	119
"Martean de Mayor," account of	218
MEIGS, Dr., cases of tracheotomy in croup	175
notice of a work on Obstetrics	267
opinions on chloroform	270
on extraction of the placenta before the child	281
on reduction of the prolapsed funis	282
MELVILLE, Dr., on the development of the ovum	329
MILLER, Dr., reports by, on scarlatina	192
case of ovariectomy	275
MITCHELL, Dr., on the use of the speculum vaginæ	269
Morbus coxæ, Professor SYME on	117
MURRAY, Sir J., on a new salt of iron and alumina	222
Multifetation, instance of	280
MURPHY, Dr., on puerperal convulsions	166
Muscle, adipofication of	197
omo-hyoid, use of	294
minute structure and mode of contraction of	293
Muscles, irritability of	292
areolar sheath of	ib.
Muscular fibre, development of	329
Nerves, ganglionic	306
of the tongue	ib.
interosseous, of the leg	309
fibre, origin of	ib.
of the cutaneous surface	310
bloodvessels of	ib.
NEVINS, Dr., on nux vomica in diarrhœa	223
NEWNHAM, Mr., on eclampsia nutans	172
Nipples, sore, collodion in the treatment of	159
Nitrate of potash in the treatment of purpura	194
in acute rheumatism	213
Nostril, simple mode of plugging	120
Nux vomica in diarrhœa	223
Œdema of the glottis treated by scarification	52
Œsophagus, foreign body in, proving fatal by ulceration of the trachea	97
foreign bodies in, general remarks on	258
and trachea, communications between, summary of cases	260
OGDEN, Mr., on the tractor vectis	284

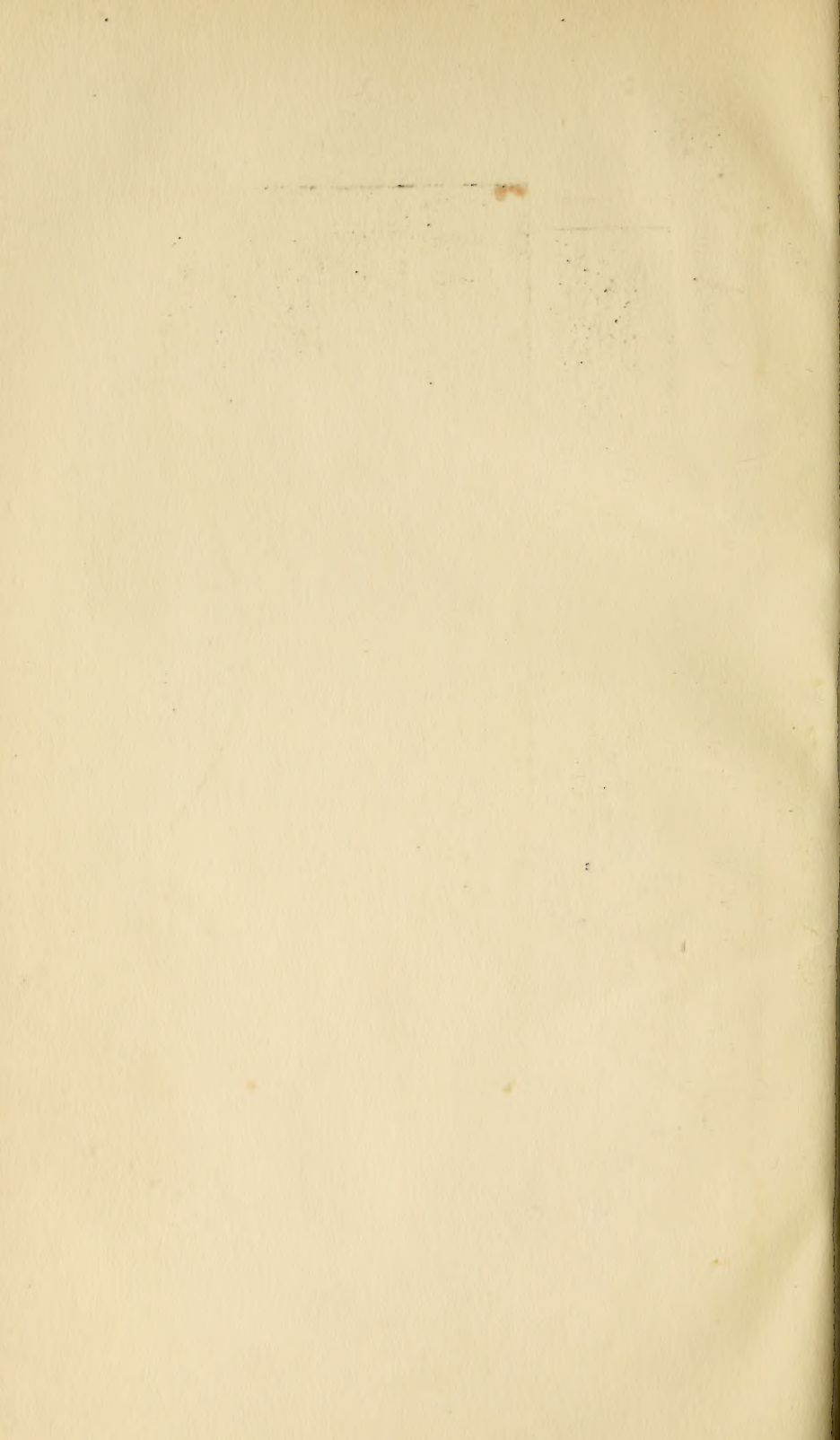
	PAGE
OLDHAM, Dr., on the bichloride of mercury in hypertrophy and induration of the uterus	151
Ophthalmia, strumous, bebeerine in	124
gonorrhoeal, Mr. WALTON on	126
purulent, of infants	181
Ophthalmic ganglion	310
Os uteri, rigidity of, during labour	167
inflammation and ulceration of, cause of uterine displacements	271
treatment of	272
Ovarian tumour, spontaneous evacuation of, by the bladder	275
rupture of	ib.
Ovaritis, subacute, treatment of	144
Ovariectomy, cases of	275
statistics of	278
Ovum, development of	329
OWEN, Mr., on the nature of limbs	291
PANCOAST, Professor, operation by, for tumour of the superior maxilla	132
Pancreas, disease of	211
Pancreatic juice, uses of	320
PAGET, Mr., on the blood of the human embryo	328
Paracentesis, in pneumothorax	204
Paralysis, paroxysmal	28
of the portio dura, Dr. TODD on	34
rheumatic, value of electro-magnetism in	46
of the serratus magnus	201
Paris, account of the wounded during the insurrection of	231
PARKES, Dr., on the analysis of the blood in purpura	194
PATERSON, Dr. R., case of foreign bodies in the œsophagus by	97, 258
PAXTON, Dr., on free carbon in the human body	198
PEACOCK, Dr. BEVILL, notice of a work by, on Influenza	192
case of aneurism of the coronary artery	209
Percussion, new instrument for	203
PEREIRA, Dr., on cod-liver oil	220
Perineum, extensive ulceration of, cured by conium	121
Periosteum, functions of	331
Pharynx, halfpenny impacted in	86
Phthisis, cod-liver oil in	57, 206
Dr. ADDISON on	205
Dr. MADDEN on	ib.
and intermittent fever, reputed antagonism of	206
value of hæmoptysis as a symptom of	ib.
inhalation of carbonic acid in	207
Phyllerine, sulphate of	223
Placenta, encysted	161
extraction of, before the child	281
Pleurisy, physical signs of	54
Pneumothorax, on paracentesis in	204
POLAND, Mr., on the ophthalmic ganglion	310
Polypus uteri, operation for	274
Portio dura, paralysis of	34
remarkable spasmodic affection of the muscles supplied by	38
Pregnancy, vomiting in	278
Prolapsus uteri	160
Prurigo, treatment of, by strychnine	83
Puerperal convulsions	166
fever	234
causes of, in Vienna	285
Pulses, in diseases of the heart	59

	PAGE
Purpura, nitre in	194
analysis of the blood in	ib.
Pyelitis calculosa, M. RAYER on	65
RAINNEY, Mr., on the minute anatomy of the lungs	314
RANKING, Dr., on a remarkable spasmodic affection of the muscles supplied by the portio dura	38
RAY, Mr., cases of hemorrhage from the umbilicus	287
RAYER, M., on pyelitis calculosa	65
Rectum, diagnosis of fissure of the	84
REES, Dr. OWEN, on the treatment of rheumatism by lemon-juice	64
REGNAULT, M., on the chemical changes of respiration	315
REID, Dr., on laryngismus stridulus	288
REID, JAMES, Esq., case of incomplete reduction of inguinal hernia <i>en masse</i>	92
Respiration, chemical changes of	315
Retroversio uteri, new instrument for	274
Rheumatic gout, lemon-juice in	64
Rheumatism, treatment of, by Dr. TODD	60
nitre in	213
RILLIET, M., on the intestinal hemorrhages of children	176
ROBERTON, Mr., on laryngismus stridulus	289
ROBIN, M., on the mucous membrane of the uterus	326
ROE, Dr. HAMILTON, on paracentesis in pneumothorax	204
ROUTH, Dr., on the causes of the puerperal fever in Vienna	285
Rumex in venereal diseases	224
SALTER, Mr., on the use of cotyledon umbilicus in epilepsy	200
SCANZONI on rigidity of the os uteri during labour	167
Scarlatina, dropsy after, by Dr. TODD	21
by Mr. TRIPE	25
by Dr. SCOTT ALISON	26
inunction with lard in	27
SCHIFF, Dr., on the changes which take place in the lungs after division of the pneumogastric nerves	315
Scrotum, contusion of, in breech-presentations	289
Scutellaria galericulata in epilepsy	200
SHEARMAN, Dr., on the physical signs of pleurisy	54
SIBSON, Dr., on the thoracic organs in relation to the parietes of the chest	312
SIMPSON, Professor, on the treatment of sore nipples by collodion	159
on turning in narrow pelvis	283
on the suction tractor	ib.
SKEY, Mr., on the use of the omo-hyoid muscle	294
Skin, general remarks on diseases of, by Dr. BURGESS	79
diseases, collodion in	82
SMITH, Dr. TYLER, excerpts from lectures by	161
notice of a work by, on Parturition and the Principles of Obstetrics	268
on the catheterism of the Fallopian tubes as a cure for sterility	278
SMEE, Mr., notice of his work on Electro-biology	290
SOLLY, Mr., on a difficulty in the diagnosis of stone in the bladder	86
Spheno-palatine ganglion	309
Spermatic cord, abscess of	140
Spermatozoa, development of	327
Spigelia Marylandica, as an anthelmintic	223
Spina bifida, treatment of	180
Spinal affection, anomalous case of	43
SPITTAL, Dr., on a singular spasmodic action of the lower jaw	39
STANNIUS, Dr., on the irritability of the muscles	292

	PAGE
STANNIUS, Dr., on the nerves of the tongue	308
Sterility, catheterism of the Fallopian tubes in	278
often caused by ovaritis	ib.
Stomatitis mercurial, creasote gargles in	209
STROHL, M., on injections in uterine catarrh	155
Subclavian artery, ligature of	133
internal to the scaleni muscles	245
Suprarenal capsules, use of	323
SWAN, Mr., on the blood-vessels of nerves	310
SYME, Prof., on morbus coxæ	117
on excision of the cervix femoris	248
Synovial membrane, structure of	299
Tartar emetic, action of	221
Testicle, descent of	325
Tetanus, anæsthesia in	201
alcoholic treatment of	ib.
case by Mr. HERAPATH	ib.
THOMPSON, Dr. L. R., on the diagnosis of varicocele and hernia	85
on the treatment of varicocele by pressure	111
Thoracic organs, site of, in relation to the parietes of the chest	312
parietes, vibration of	203
Tic douloureux, treatment of, by injecting the antrum	50
TIEDEMANN, Dr., on the irritability of the heart	302
TILT, Dr., on subacute ovaritis	144
on sterility	278
Tissues, non-vascularity of certain	294
TODD, Dr. B., on dropsy after scarlatina	21
on paralysis of the portio dura	34
on the treatment of acute rheumatisms	60
on hæmaturia	73
TODD, Dr. B., on convulsive diseases	201
Tongue, lymphatics of	324
Tonsils, enlarged	250
TOYNBEE, Mr., on the non-vascularity of certain tissues, <i>with engravings</i>	294
on the structure of synovial membrane	299
TRIPE, Mr., on dropsy after scarlatina	25
Tumour of the superior maxilla, removed	132
Turning in narrow pelvis	283
Typhus and typhoid fever, question of identity	190
Ulcers, treatment of, by Mr. CRITCHETT	103
Umbilicus, hemorrhage from	287
Urethral pains after gonorrhœa, treatment by a new method	124
Urethritis in the female	270
Urinary secretion, influence of the nerves over	323
Urine, diminished secretion of, in old age	78
foetal, composition of	330
Uterine catarrh, injections in	155
hemorrhage, Dr. CANE on	165
contraction, excited by the ingestion of ice	167
affections, actual cautery in	273
douche, new instrument for	ib.
moles, new sign of	279
Uterus, hypertrophy of, bichloride of mercury in	151
unimpregnated, hydrometra of the	158
prolapse of, Mr. HOHL on	160
inversion of	162
rigidities of the mouth of, during labour	167
corroding ulcer of	273

	PAGE
Uterus, polypus of, modification in the operations for	274
retroversion of	ib.
new instrument for replacing in	ib.
during pregnancy	281
rupture of, case of recovery after	282
mucous membrane of	326
state of, after delivery	327
VANOYA, M., on a new sign of intermittent fever	191
Varicocele and hernia, diagnosis of	85
treated by pressure	111
new operation for	113
VIDAL (de Cassis), M., on a new mode of treating urethral pains after gonorrhœa	124
Vienna paste, new method of applying to the os uteri	273
VIGLA, M., summary of cases of communications between the œsophagus and trachea	260
Vital affinities, Dr. ALISON on	330
Vomiting, cause of the absence of, in the horse	319
WAGNER, Dr., on the origin of nerve-fibres	309
WALLER, Dr. A., on compression of the carotids in headache	202
WALSHE, Dr., on adventitious products	195
on the connection between apoplexy and cardiac disease	198
WALTON, Mr. HAYNES, on gonorrhœal ophthalmia	126
case of compound dislocation of the humerus	131, 246
WARD, Dr. OGIER, case of a coin impacted in the œsophagus	86
general remarks on such accidents	259
WARDELL, Dr., case of general adipofication of the muscles	197
Warm baths, medicinal use of	218
WARREN, Dr. MASON, case of ligature of the subclavian artery	133
on the operation for artificial anus, case.	136
on hare-lip	257
WATSON, Dr. EBEN, cases of rupture of the bladder	88
WEBER, M., on the lacteals	324
on the descent of the testicle	326
WELLS, Mr., report of the wounded in the Paris insurrection	231
WEST, Dr., on infantile fever	167
WHITEHEAD, Mr., on congestive dysmenorrhœa	148
WIGLESWORTH, Mr., notice of a pamphlet by, on Animal Motion	290
WILLIAMS, Dr. C. B., on cod-liver oil in phthisis	57
WILSHIRE, Dr., on infantile fever	169
WILSON, ERASMUS, Esq., on collodion in skin diseases	82
WRAGG, Mr., on animal ligatures	246





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